U.S. Department of Energy
Responses to Comments
on the
March 2004 Draft
Long-Term Surveillance and Maintenance Plan
for the Weldon Spring, Missouri, Site

August 2004

EPA Comments
Draft Long-Term Surveillance and
Maintenance Plan for the
Weldon Spring, Missouri, Site (March 2004)

May 21, 2004

General Comments:

1. Much of the DOE program guidance talks in terms of a long-term stewardship program, with surveillance and maintenance activities being a part of that program. By making this a long-term surveillance and maintenance plan (LTS&M Plan), are there parts of the long-term *stewardship* program that aren't covered by long-term *surveillance and maintenance?*

   Response: No. The name change to this document resulted from an internal DOE reorganization and the essential components of the program have remained the same.

2. The proposed Federal Facility Agreement for long-term site management contemplates the possibility of new or different actions being undertaken in the future. The LTS&M Plan, as drafted, appears to address only future actions necessary to preserve the functionality of the existing remedial actions, not any new or different actions that may be necessary. These apparent differences will need to be reconciled and we will need to make sure that the requirements under the proposed FFA are structured accordingly.

   Response: While the focus of the LTS&M Plan is to address activities that are presently known to be necessary for the existing remedies, the Plan does contain contingency actions that could be implemented, if necessary. DOE will work with EPA and MDNR to assure that processes are in place to deal with unanticipated contingency actions.

3. The draft LTS&M Plan proposes specific forms of institutional control to restrict land and shallow groundwater use at the chemical plant, quarry, and surrounding areas. Some of the early site decision-making as established in the Chemical Plant ROD, Quarry Residuals ROD, and Southeast Drainage EE/CA was vague with respect to the need for institutional controls and deficient with respect to the CERCLA analysis necessary to "select" specific institutional controls as part of the remedy. This is an observation not a criticism. Expectations have changed as result of experience and EPA faces these same sort of deficiencies on many older decision documents across the program. To ensure that the best approach to institutional control is used, to limit implementation problems, and to assure proper public process, EPA's draft guide to implementing, monitoring, and enforcing institutional control recommends that the process for ROD changes be applied to older decision documents that contain vague or incomplete IC language. We recommend that DOE propose an appropriate procedural approach to selecting the

appropriate ICs for these response actions.

Response: DOE maintains that the open public process used to create the LTS&M Plan meets the objectives of public involvement under CERCLA. The public along with the regulators have seen and reviewed the LTS&M plan along with the institutional controls throughout many revisions including at least one public workshop that was devoted exclusively to the discussion institutional controls.

4. With respect to the IC discussion in § 1.6, current EPA guidance provides that various potential ICs should be evaluated using much the same criteria as engineered controls are evaluated, e.g., as to short- and long-term effectiveness, implementability, cost, etc. Since for the most part this evaluation wasn't done for ICs associated with the older decisions, we think that warrants a more complete discussion of the IC options considered in this plan. Also, much of the basic information we expected to find about the specific ICs covered by the plan either isn't there at all or is presented in a manner which makes it difficult to find. The substantive information about specific ICs is presented in Table 1-5 and Appendix E. There are basically two geographical areas for which essentially independent cleanup decisions were made, the Chemical Plant Area (defined as including surrounding areas where contamination has come to be located that originated at the Chemical Plant) and the Quarry Area (defined as including surrounding areas of contamination). We recommend discussing ICs by area, for two main reasons: (1) an integral part of the presentation is the overall restrictions necessary for the specific cleanup action(s) selected and discussing ICs by area would seem to facilitate that presentation, and (2) it would be easier to understand the full universe of restrictions that would be imposed on each area if they were presented as a package. For each area, the following information is needed: (1) a narrative explanation of what land/resource use restrictions are necessary, (2) the specific purpose(s) of each restriction, e.g., to prevent exposure, to protect the integrity of the remedy, etc., (3) the specific area(s) the restriction applies to, described in sufficient detail to be included in a legal description of the property involved, (4) the duration, or at least anticipated duration the restriction must remain in place and the specific conditions that must be met for the restriction to be withdrawn, and (5) the estimated cost of installing and maintaining the restriction. A cost estimate is needed because DOE is committing to seek funding to maintain the ICs, and some estimate of that cost is necessary for purposes of making sure budgetary requests are sufficient to cover anticipated costs. We don't necessarily see the purpose of including some of this information in the body of the plan and some in an appendix. If there is no compelling reason, we recommend eliminating Appendix E altogether.

Response: DOE is amending Appendix E to more fully explain the rationale for the Institutional Controls and to present an implementation strategy. Many of EPA's comments were helpful in reorganizing the discussion of these issues.

5. We recommend that DOE do a better job of presenting its re-use strategy for the site. A

recognized objective of the Superfund Program is to incorporate redevelopment initiatives into site cleanup plans that help communities restore contaminated properties to productive uses. As written, the draft LTS&M Plan makes only limited reference to the Interpretive Center, Prarie, and Native Plant Garden as mechanisms of institutional control. Almost no mention is made of the other recreational uses or of the use by Lindenwood University. No discussion is provided on whether these uses are sustainable or consistent with expectations of the community and local land use planning authorities.

Response: DOE will expand on this discussion somewhat, however the reuse of the property represents a secondary institutional control, since it does not directly relate to the protectiveness of the remedies.

6. The LTS&M Plan, as drafted, does not appear to be a stand-alone plan, e.g., various monitoring plans are placed in the appendices or incorporated by reference. This presents procedural concerns that are not adequately explained. For example, it is not clear whether or not changes to these other plans are intended to be subject to the modification procedures established for the LTS&M Plan.

   Response: It is DOE ‘s intention that this document contain all essential information needed for the site. By capturing the essential components in this document, DOE intends that the changes would be subject to a modification of this document.

7. The clarity of the LTS&M Plan could be increased if terminology were used more consistently throughout the document. For example, Chemical Plant, chemical plant site, chemical plant site proper, chemical plant area are used at different places in the document probably meaning the same thing but possibly not. The same is true for quarry, quarry site, and quarry site area.

   Response: The document has been revised to make these terms more consistent.

8. Since some things will change over the expected life of the LTS&M Plan, e.g., who and how a member of the public should contact DOE, it may make sense to structure the document in such a manner as to minimize the number of places the plan itself has to be revised when such changes are made. For example, the actual identifier information for DOE, EPA, public official, and other contacts currently included in both the body of the plan and an appendix, could be limited to an appendix, with generic references in the body of the document to the appendix. See for example the DOE contacts listed in § 2.2.2. That way, when, for example, a key person changes, only the appendix would need to be revised. Also, the plan should specify a process for routine verification and updating of this administrative kind of information to make sure it remains current. Having a process like this would also be helpful in working through issues dealing with the types of changes to the plan DOE can make on its own and which types of changes require EPA/DNR review and concurrence.

Response: Comment noted. DOE maintains that one element of the annual inspection is to verify and update this type of information.

9. The LTS&M Plan generally does not convey a sense of the time period the LTS activities must be in effect, i.e., essentially in perpetuity, unless some new technology is developed that could be used to render harmless the radioactive and hazardous materials present at the site. With the possible exception of some of the groundwater contamination, which is expected to dissipate to levels below public health concern over tens of years, the vast majority of the materials contained on-site will remain hazardous as far into the future as we can predict. It is important for DOE to acknowledge this issue and to point out that it expects the LTS Plan to be revised and updated in the future as necessary under the then present circumstances to assure the remedy remains protective.

   Response: DOE acknowledges that components of the LTS&M Plan related to the disposal cell are expected to be required in perpetuity. The 5-year reviews are intended to address reviews of the remedy protectiveness and the annual inspections are intended to address the need to update the LTS&M Plan.

Specific Comments:

1. 1-1 Purpose and Scope, pg. 1-1, ¶ 1, ln. 6– "These" shouldn't be capitalized.

   Response: Agree. Text will be modified.

2. Same, ¶ 2– It is not clear whether use of the term "former Weldon Spring Chemical Plant" here is intended to distinguish it in some manner from other similar terms, e.g., the "Chemical Plant" and "Weldon Spring Chemical Plant." Consistent use of clearly defined terminology would enhance the clarity of the document. Also, to the extent groundwater monitoring and ICs for the GWOU extend onto the WSOW, the LTS Plan does address that property, so the last sentence in this paragraph does not seem accurate.

   Response: While DOE appreciates the need for clarity this document represents a compilation of numerous other document s and certain modifiers bring clarity to the use of the term. The last sentence has been revised for clarity.

3. Same, bullet objectives– Presumably these objectives should be the same as the purpose/performance standards for the LTS&M Plan in the proposed new FFA. This will need to be reconciled.

   Response: Comment noted.

4. Same, bullet objectives– It is not clear if these bullets cover maintenance of the remedies

that have been put in place.

Response: This first bullet has been modified to clarify this issue.

5. Same, objectives of LTS, 2nd bullet– who are the future custodians DOE has in mind here? Unless something changes, DOE is the current and future custodian.

Response: This was a bullet attempt to capture the general idea that as time passes, government structures change. It is simply noting essential information that will be needed by any new organization.

6. Same, objectives of LTS, 3rd bullet– IC implementation needs to be specifically addressed in these objectives. Also, DOE needs to clarify what it means when it says as long as "required." Does DOE mean something other than as long as necessary to maintain the protectiveness of the remedial action?

Response: The text has been revised to clarify this issue.

7. Pg. 1-2, Table 1-1– How are the surveillance and maintenance objectives listed in this table supposed to correlate with the surveillance and maintenance objectives listed in the preceding bullets? From the manner in which they are presented, it is not clear why there should be two sets of objectives. It appears the table may be intended to expand on some areas covered by some of the bullets; however, this should be clarified. If there is no good reason for two lists, perhaps it would be better to combine the bullet list with the information in Table 1-1 to come up with a single listing of the LTS objectives DOE has in mind, which would then probably be reflected both in the LTS Plan and the new FFA.

Response: DOE's intention is that initial bullets summarize higher level broader objectives to be followed by more specific objectives.

8. Same, under "Control exposure to contaminated groundwater"– Based on the remedy selected in the Groundwater Operable Unit ROD, groundwater restoration is also a long-term objective for groundwater.

Response: While we agree that groundwater restoration is an objective of the GWOU remedy, the practical objective of the LTS&M Plan is to control exposure via inspecting the land use and monitoring the contaminant concentrations.

9. Same, under "prevent loss of knowledge"– What are the "mandatory surveillance and maintenance program" requirements that must be complied with and where are they set out? Also, the strategy should address the physical manner in which this information is stored and maintained. For example, information stored in an electronic format should be subject to a routine periodic review of data storage technologies to make sure the system

in use has not become obsolete.

Response: Since this bullet refers to the plan itself it was redundant and has been deleted.

10. §1.2 Location and Property Ownership, beginning on pg. 1-3– While this section is entitled "Location and Property Ownership," it provides more information about surrounding land uses than it does information about who actually owns the various pieces of property covered by the LTS Plan. For example, is title to the Chemical Plant, not just jurisdictional control, held by DOE, the United States, or some other federal agency? If DOE doesn't actually own the property, some better explanation of the terms and conditions under which DOE has jurisdictional control of the property should be included. Much of the desired land use controls for DOE property is based on the assumption that DOE will continue managing the property in the future, but if DOE's land management authority is actually granted by some other agency, DOE may not be in a position to continue exercising the necessary control. Also, who actually owns the two conservation areas– the MDC, the State of Missouri, or some other state agency? What is the ownership of Francis Howell High School and the MDOT facility? This information should be spelled out precisely and accurately in the plan. We suggest including specific references to the documents evidencing current property ownership and, for property owned by the United States, documents designating specific agencies to be responsible for that property, with copies of those documents being made available in the repositories. As part of the LTS plan, we recommend including a requirement to verify on a regular basis that property ownership hasn't changed.

    Response: DOE clearly has the authority over this site and EPA has recognized that authority in the past by cosigning decision documents with DOE. All federal property is titled to the United States of America. As you are aware jurisdictional control at the site has changed several times. DOE intends to maintain its control over the site, but if that would change, the federal government would still retain its liability and responsibility to maintain the protectiveness of the remedy. Regarding surrounding property ownership, either the entity must warrant that it owns the fee title to whatever interest we acquire or DOE will obtain a title policy. Regarding verification of land ownership, this is a component of the annual inspection.

11. §§ 1.3.2 Remedial Action History, and § 1.4 Final Site Conditions, pg. 1-8 _– It is not fully evident how to associate the six bullets in § 1.4 with the four operable units described in § 1.3.2. We suggest combining the summary information about the various remedial actions with the information about final site conditions, e.g., placing the information about final site conditions in with the description of the remedial action. Perhaps Operational history, currently in § 1.3.1 could become § 1.3 and the combined §§ 1.3.2 and 1.4 could become new § 1.4 Remedial Actions and Current Status, or something along those lines. Also, we suggest providing more detail on final site conditions since this is the aspect that drives the need for LTS.

Response: DOE does not see the benefit of restructuring the document along these lines. The information in this section is intended to provide summary information on the operable units and final site conditions. More detailed information is provided in Appendix A. The transfer of the majority of the background information from the main text of the document to an appendix was done as a result of a previous EPA comment that the lengthy site history distracted the reader from the main objectives of the LTS&M Plan.

12. § 1.3.2.4 Groundwater OU, pg. 1-10– The GWOU ROD was made final in *February* 2004.

Response: DOE acknowledges that EPA signed the GWOU ROD in February, however the document itself is dated January. The DOE will add the February EPA signatory date to the text.

13. § 1.5 Legal and Regulatory Requirements, pg. 1-10– Is this section intended to address the legal requirements currently in effect or those in effect at the time the cleanup decisions were made?

Response: This is summary level information focusing on the requirements that apply to long term surveillance and maintenance.

14. § 1.5.1, pg. 1-11– What is the reason for having a single subdivision pertaining to groundwater standards? Also, placing the discussion of periodic reviews and institutional controls in this subdivision may imply that they only apply to groundwater, which isn't the case.

Response: Agree. The text has been revised to eliminate the "Groundwater Standards" heading from this section.

15. Same, pg. 1-11 through 1-13– The text, in combination with the information in Tables 1-3, and 1-4, is not descriptive of how these standards are related to remedial goals. The distinction between the groundwater north of the slough and south of the slough and how that affects the manner in which the standards are presented is not clear. What is meant by the heading "Applicable Occurrence"? Note that MCL's are generally *relevant and appropriate* to potentially usable groundwater, rather than being *applicable* as this section indicates.

Response: "Applicable Occurrence" was a typographical error and has been corrected to "applicable OU." Because the groundwater north of the slough was determined to be unusable under EPA definitions, long term monitoring was selected as the remedy. The 2,4-DNT standard was applied because the groundwater was close to meeting that standard already. The uranium standard was not applied to the groundwater north of the slough and the groundwater south of the slough was not impacted due to the reduction

zone. The uranium standard was applied as part of the well field contingency plan, but it does not directly apply under the Quarry Residuals Operable Unit Record of Decision. As a summary table, DOE believes the information presented is correct, with additional detailed discussion provided in the appendix.

16. Table 1-3, pg. 1-12– Table 1-3 does not do a very good job of identifying specific requirements the remedial actions must meet and it's not apparent that these requirements are consistent with the cleanup levels specified in the various RODs.

    Response: This is summary level information. The specific cleanup levels and related information is provided in Appendix A.

17. § 1.6 Institutional Controls, 1st ¶, pg. 1-13– DOE's basic definition of the term "institutional controls" is somewhat broader than EPA's, e.g., in Policy DOE P 454.1 the definition of ICs includes physical barriers, whereas EPA defines ICs as non-engineered controls. While the introductory provision of this section is written broadly enough to include "engineered controls," the specific ICs considered for this site seem to fall within EPA's definition.

    Response: While we agree that the ICs could all be broadly characterized as non-engineering controls, the intention was to expand upon the types of non-engineering controls that DOE is implementing. We agree that these ICs fall within EPA's definition.

18. Same– EPA categorizes ICs as *Proprietary Controls*, *Governmental Controls*, *Enforcement and Permit Tools*, and *Informational Devices*. These categories don't clearly match with the general types of controls described here, making it more difficult to evaluate DOE's proposals. If DOE elects not to use EPA's categorization scheme, it would be helpful for it to define better the categories it is using. Also, has DOE given any consideration to including specific land use restrictions in the new FFA to reflect agreement as to how DOE controlled property would be used? This would fall within the category of enforcement or permit tools, e.g., a commitment by DOE either to use or not to use, as appropriate, specific property/resources for specified purposes. This would be a way of layering additional restrictions onto the notices DOE is filing. It may be possible, if the State of Missouri is a party to the new FFA, not the Department of Natural Resources, for the State to express a commitment as to what uses it will allow on state-owned property affected by contamination from the site, thereby also arguably making that agreement an enforcement tool.

    Response: At the present time the DOE expects the LTS&M Plan itself to be enforceable under the FFA and is receptive to considering other possibilities within the context of negotiating a new FFA.

19. Same– EPA considers ICs as appropriately used both to prevent exposures and to protect

the integrity of the remedial action, but the latter purpose isn't clearly provided for in the LTS&M Plan.

Response: DOE believes many of the institutional controls are specifically written in a positive way to protect the integrity of the remedial actions. For example, the access agreement with MDC is for the purposes of monitoring and drilling wells, as needed for the protectiveness of the remedy.

20. Same– We need to make sure that the respective timing of various activities relating to implementation of ICs is consistent between the requirements of the LTS Plan and the new FFA.

Response: Comment noted.

21. Same– A real estate agreement might be one type of an IC, but such agreements, *per se*, don't define ICs.

Response: Agree. Text has been modified.

22. Same, 2nd ¶– We don't think it is appropriate to say ICs are applied to prevent "inadvertent" exposures, because exposure assumptions should be based on either current uses or reasonably anticipated future uses. Neither of those would seem to qualify as "inadvertent." Also, we don't think "presumed" land use is an appropriate descriptor.

Response: Text has been revised, changing "presumed" to "reasonably anticipated future" and deleted the word "inadvertent".

23. Same, 5th ¶– We suggest providing more information about the notation on ownership record that DOE has now filed, e.g., for each such filing where (with what official) it was filed, what property, by legal description, it applies to, what its terms are, what further steps, if any, are necessary for the notation to be officially recorded so as to appear in title records when a title search is conducted, what the anticipated legal impact is of its having been filed, etc.

Response: The notation of ownership, as filed with the St. Charles County Recorder, has been included in Appendix E.

24. Table 1-5, pg. 1-14– Much of the information in this table seems to be a summary of the information presented in Appendix E. The discussion of how the necessary land use controls would be implemented is premature until a more detailed analysis of options, including discussions of implementability, long-term effectiveness, and cost has been completed. For example, the idea of including a notation on the federal government's title to the disposal site property presents some issues. Although DOE has apparently

been successful in placing such notation on the property, the long-term effectiveness of such notations is still questionable without more information as to what state law provides with respect to such notations. Before selecting specific IC options, DOE should do a more careful evaluation of potential mechanisms for implementing such controls.

Response: DOE has revised Appendix E to more fully address some of these issues. DOE believes the necessary institutional controls are in place and therefore a detailed assessment of long term effectiveness, etc, of layered or redundant institutional controls is not essential.

25. Same, pg. 1-19, top ¶– The meaning of the first sentence is not clear. The fact that a remedy is not intended to be a final remedy does not negate the need for institutional controls. Perhaps it would be more appropriate to explain how the other remedial decisions were designed to address any necessary use restrictions resulting from management of these wastes.

Response: This sentence has been clarified in the Draft Final version of this plan.

26. § 2.1 Surveillance and Maintenance Implementation, ¶ 1– For a plan of this nature and duration, I recommend setting out specific requirements rather than incorporating them by reference.

Response: Text has been revised to delete the incorporation by reference.

27. Same, ¶ 3, pg. 2-1– What are the established DOE systems and procedures referenced here and where are they described? What is meant by a "community of stewards?"

Response: Text has been revised.

28. § 2.1.1 Role of DOE, 1st ¶, pg. 2-1– In EPA parlance, "post-closure" is a RCRA term of art, and using it here might raise some confusion as to the RCRA status of the facility.

Response: DOE believes post-closure is a term that can be used in a generic sense and unless a specific reference is made to RCRA, none should be implied.

29. Same, LTS&M Plan Revision, pg. 2-3– The process does not seem sufficiently thought out. It is not clear under what circumstances "the plan confers upon DOE authority to make the change." We agree that certain types of changes should necessitate consultation with other parties and certain other types of changes the DOE should be able to do without involving other parties; however, the plan should clearly describe and categorize these circumstances. Also, the plan should set out a methodology for evaluating the need for a revision and a mechanism for other parties to recommend or compel a revision.

Response: Where DOE believes that a modification is minor it will be called out as such in the plan indicating that DOE can make that change without formally revising this document. This text has been revised to clarify this process, but it remains a summary level. Specific components of the plan, such as changes to monitoring frequency, are addressed in detailed discussions of those components.

30. § 2.1.2 Role of Regulators, 1st ¶, pg. 2-3– EPA may be the lead regulatory agency, but it is not the lead agency. Also, EPA will likely expect more than a right of review and comment on many of these documents.

Response: DOE agrees and has revised the text to read lead "regulatory" agency and has added "and approve as appropriate."

31. Figure 2-1, pg. 2-4– It is not clear why the periodic review process is shown on a separate track from LTS activities.

Response: The reason for the different tracks is that the routine activities of the LTS&M Plan provides one means of assessing changed conditions and the 5-year review process provides another, independent, more comprehensive review of the protectiveness of the remedies.

32. § 2.2.2 DOE Contacts, pg. 2-5, ¶ 2– If the list is revised, will a revised plan be developed?

Response: No. The draft final version of this plan has been revised to clarify this issue. Changes to this contact list are considered minor, not subject to review and approval, and will be made available to the regulatory agencies, stakeholders and the public.

33. § 2.2.4 Interpretive Center, pg. 2-6, ¶ 2– Since the purpose of the center is to enhance community involvement, it would seem reasonable to consult with the community in some fashion before deciding to discontinue operations.

Response: The draft final version has been revised to add "DOE will also consult with the community through the revision process for this plan."

34. § 2.3.2 Inspection Procedure, pg. 2-7– In comparing the information presented here with the event scenarios and response actions in Table 2-8, it appears that creep, bulging, and differential settlement are identified as potential threats to disposal cell integrity yet they don't appear on the list of potential event scenarios. Also, the information presented does not seem to prescribe procedures or standards for measuring and reacting to creep, bulging, differential settlement, erosion, rock degradation, or other factors that may affect disposal integrity. Are the methods to be left entirely to the inspector's discretion? What process does DOE propose to use to make the response decisions?

Response: DOE maintains that the description of the inspection procedures in this section, together with the Table 8-2 event scenarios and the inspection checklist contained in Appendix H present a consistent approach to measuring and evaluating deterioration which could impact the protectiveness of the remedies

35. Same– Clarify whether or not the plan is to inspect the different areas individually at different times or to perform one comprehensive inspection. Clarify whether or not there will be one annual report covering all areas (see § 2.3.10, pg. 2-15).

Response: DOE has revised the text to clarify that the annual inspection is intended to be comprehensive and conducted within a set period of time. However, DOE does not preclude the possibility that additional inspections or observations could contribute to the comprehensive annual inspection. The intent is to write a single annual inspection report.

36. Same, pg. 2-7 _– The description of the inspection activities and the checklists in Appendix H do not seem to correlate well with the areas identified in Table 2-2. It might be clearer to the reader to eliminate Table 2-2, *per se*, and combine the information currently in it with the narrative information in the body of the plan in a way that relates the inspection activities to the inspection areas. We also suggest using consistent terminology in describing the areas and the descriptions of the inspection activities.

Response: DOE is reluctant to rearrange this information based solely upon EPA's format preference. This table appeared in two previous versions of the document without comment and serves a summary of the general areas targeted for inspection.

37. § 2.4 Follow-up Inspections, 2nd bullet– This should be written to make it clear that the list of those who may notify DOE is not intended to limit those who may notify DOE of a problem.

Response: DOE believes the description as written is broad enough to apply to almost anyone, since DOE does not intend to demand proof of citizenship.

38. § 2.4.2 Personnel, pg. 2-16– Perhaps it is described elsewhere and we missed it, but what is the basis for selecting site inspectors? Who does the selecting and how does the information about the potential need for a follow-up inspection get to that person?

Response: Section 2.3.9 identifies the basis for selecting inspectors. This cross reference has been added to section 2.4.2.

39. § 2.4.3 Reports and Follow-up Inspections, pg. 2-16– We recommend that some sort of incident report be prepared and provided to EPA, MDNR and made available to the public for all events leading to a followup inspection on a more timely basis than as part of an annual report.

Response: Text has been revised to indicate that circumstances that lead DOE to conduct a follow up inspection will be reported in the FFA quarterly reports.

40. § 2.5 5-Year Review, pg. 2-16, 5-Year Review– § 121(c) provides that such reviews must be conducted "no less often than each 5 years." As written, the plan assumes that such reviews will only be conducted every 5 years. The plan should acknowledge that a periodic review might be appropriate at some interval less than 5 years and provide guidance as to the circumstances under which a review would be conducted at a more frequent interval. The information provided in this section serves as a skeleton outline of what goes into a periodic review, but it falls short of providing the level of detail appropriate for describing what DOE actually plans to do during periodic review and what information will be included in a periodic review report.

Response: The LTSM Plan anticipates that these reviews will be conducted every five years, without precluding the possibility of a more frequent review. DOE believes the plan should provide the stakeholders with a reasonable expectation regarding when to anticipate these reviews. We know of no other sites where the reviews are more frequent than every five years. The content of the reviews will be dictated by DOE and EPA guidance and summary information seems appropriate for the LTSM Plan.

41. § 2.6 Routine Site Maintenance and Operations, pg. 2-17, re: LCRS– It is not apparent either what is "transient drainage water" or why it makes sense to decrease site monitoring frequency if transient water drainage production diminishes. We suggest clarification of both points.

Response: This section has been revised in the draft final LTSM Plan to replace "transient drainage water" with the term "leachate." This revision also explains that a decrease in leachate production will automatically lead to less leachate monitoring, since there will be less volume to ship for treatment and disposal. If the reduction in leachate generation would also support less frequent groundwater monitoring, then DOE will propose that in a formal revision to the LTSM Plan.

42. Same, re: Interpretive Center, Administration Building, etc.– DOE's primary approach seems to be to find some other party to occupy and maintain some of the buildings and office space. What is DOE's backup position in the event that doesn't happen or if there are gaps in occupancy by other parties? We think there needs to be a commitment by DOE to do the necessary maintenance work at all times when some other party isn't doing it.

Response: DOE has committed to the operation, including maintenance and capital improvements, of the Interpretive Center as an Institutional Control focused on public communication regarding the cleanup of the site. If the administrative building or its

landscaping ever fall into disrepair, that will not impact the Interpretive Center or the protectiveness of the remedies.

43. § 2.7 Environmental Monitoring, beginning pg. 2-18– The various monitoring plans should be managed in consistent fashion. As written, the disposal cell monitoring programs are incorporated in the appendices, while the groundwater monitoring and quarry residuals monitoring plans are incorporated by reference. The descriptions are not sufficiently complete either to serve as a stand-alone descriptions of the monitoring programs or to explain the relationship of other stand-alone monitoring plans to this plan. Will the Weldon Spring Environmental Monitoring Plan be attached to or otherwise incorporated into this plan? Will the procedures established in this plan cover amendment of the other monitoring plans? If not, what review and approval role does DOE envision for EPA and the state for changes in the other monitoring plans?

Response: DOE believes that the LTSM Plan, as finalized with the latest information from the GWOU RD/RA Work Plan, provides the essential details of the monitoring programs. Specific details, such as a work schedule for conducting the groundwater monitoring, seems beyond the scope of this document.

44. § 2.7.4 Disposal Cell LCRS Monitoring and Operation, pg. 2-21– Consistent with the determinations in the Chemical Plant ROD, the RCRA closure requirements are relevant and appropriate, not applicable. The RCRA monitoring and record keeping requirements should not be discussed as if they were legally applicable to this action; rather the monitoring requirements should be whatever was found to be appropriate under the circumstances, even if they happened to be the same monitoring requirements RCRA would otherwise require. If DOE has no operational staff present at the site, who is going to be checking on leachate volumes, collecting samples, etc.?

Response: Agree. The Draft Final version has been revised to clarify this issue. The DOE will have subcontractors assigned to the project to monitor leachate volumes and collect samples.

45. § 2.8 Regulatory Compliance Monitoring, pg. 2-30– We believe the correct cite to the section headed “Legal and Regulatory Requirements” is § 1.5 rather than 1.2, but it doesn’t set forth in any detail the types of monitoring DOE believes is required to monitor regulatory compliance.

Response: Agree with section correction and this was corrected. Section 1.5 includes a summary description. The actual monitoring requirements are discussed in detail throughout the document.

46. § 2.9 Emergencies, Contingency Planning, and Corrective Action, pg. 2-30– To some extent DOE is relying on the cooperation of other agencies to tell it if unusual damage or disruption that threatens or compromises site safety or security happens. In these

instances some arrangement more affirmative than a one time letter from DOE to the other agencies would seem appropriate, especially over the long-term.

Response: DOE will not rely on a one-time letter to maintain relationships with stakeholders and first responders. Text has been revised to indicate that annual contacts will be made in accordance with the inspection checklist in Appendix H.

47. Same, pg. 2-31– the list of occurrences that may require corrective action (another RCRA term of art) isn't very complete, the conditions listed aren't very well defined, and it is not entirely clear how these conditions correlate with the event scenarios that follow.

Response: Text has been changed to indicate these occurrences "include, but are not limited to…" so that the reader better understands that this is introductory text with the details to follow in the subsequent sections such as the disposal cell event scenarios.

48. § 2.9.2.1 Leachate Contingency Treatment, pg 2-24– The circumstances that could lead to use of the contingency treatment system are not described.

Response: Agree. The text has been revised to indicate that treatment may be required if shipment to the Metropolitan St. Louis Sewer District is prohibited.

49. § 2-12 Records and Data Management, pg. 39– By not discussing the anticipated time frame these actions will be in place, DOE may be minimizing the difficulty of maintaining the types of data and records it describes as being critical to ensuring "the continued management and the follow-on actions and controls ... required to protect public health and the environment and to demonstrate compliance with applicable legal requirements." For example, what is the anticipated life expectancy of paper copies of documents, including site photos and maps? It's probably substantially less time than the expected time period the actions and controls will be needed. To the extent DOE's plan relies on maintaining electronic media, rather than paper records, how does DOE plan to ensure that electronic records will be maintained in a currently readable format?

Response: DOE is following the current regulations regarding records established by the National Archives and Records Administration (NARA). NARA requires records to be paper records and maintains them in an environment designed to maximize their durability. DOE does not rely on electronic databases as primary records.

50. Appendix E, IC No. 1, pg. E-3– We recommend reorganizing the discussion of all the ICs along the lines discussed in the general comments on ICs above. This discussion combines ICs fulfilling different purposes, i.e., limiting use of contaminated groundwater and preventing disturbance of the disposal cell, at different locations, the Chemical Plant Area and the Quarry, making the discussion more difficult to follow than necessary. The discussion is also lacking in detail. There should be information provided as to who

actually owns the property involved. What does "currently under the jurisdictional control of DOE" mean in terms of DOE's authority to take various actions relating to the property? How was that jurisdictional control conferred on DOE? What's to keep whoever conferred jurisdictional control on DOE from rescinding it in the future? Is it within DOE's scope of authority to take the action limiting land and resource use as described in the plan? How will DOE ensure the concurrence and cooperation of the agency that actually owns the property in satisfying the requirements discussed here? These comments apply to the other similar options involving land under DOE jurisdiction, even if not restated in comments for those options. What legal research has DOE done to confirm the validity and duration of such notations and where can a summary of the findings and conclusions be found?

Response: This appendix has been rewritten attempting to address these issues.

51. Same, IC Description, pg E-3– It seems like false economy to refer the reader to a table in the body of the document for a description of the IC rather than including the description in the appendix, or, preferably, the other way around. (This comment applies to the description of each of the ICs.) Can anyone enforce the terms of the notation and if so who? Finally, DOE seems to assume this option could be implemented and remain a viable restriction on land and resource use as long as necessary (essentially forever), without examining implementability issues. Has DOE researched Missouri law to find out under what conditions subsequent owners can remove the notation? Has DOE considered retaining an easement or some other formal interest in the property upon transfer of the property to insure the necessary restrictions and rights are retained? Also, the matter of whether or not any additional assurances could be achieved through layering of additional controls has not been addressed. The comment regarding implementability applies generally to all the IC descriptions.

Response: This appendix has been rewritten attempting to address these issues.

52. Same, Monitoring and Enforcement, pg. E-3– It is not clear what DOE means when it says "Enforcement of these institutional controls will be accomplished under CERCLA ... ." Does DOE think there is a CERCLA enforcement mechanism for someone taking an action contrary to a deed notice? This comment applies to each of the other IC options for which DOE asserts a CERCLA enforcement authority.

Response: This appendix has been rewritten attempting to address these issues.

53. Same, Purpose, pg. E-3– The general references to contamination in subsurface soils and groundwater that exceed risk levels for residential use are too vague. We suggest that the description should identify the areas where residual contamination is an issue, the contaminant(s) that exceed risk levels, and the type of use that the cleanup levels were based on.

Response: Final site conditions related to cleanup and risk levels are addressed in Appendix B.

54. Same, IC No. 2, Background, pg. E-4– Is this statement accurate? The continuing success of the cleanup depends, in large part, on the ability of DOE to maintain proper use restrictions and communicating with the public about these use restrictions is one way of assisting in maintaining these restrictions, but is not the only way of doing so.

Response: The background statement does not say that communicating with the public is the "only way" to assure proper use restrictions. DOE has tried to clarify in the revision to this appendix, which institutional controls are required and which are additive.

55. Same, IC No. 2, IC Description, pg. E-4– What does DOE mean when it says "the interpretive center will continue to be maintained commensurate with community support"?

Response: DOE has always been clear that the interpretive center will remain open only as long as the public continues to visit. If the interpretive center does not perform as an effective means to communicate with the public, then DOE is committed to pursue other means to that end. DOE is committed to meet the communication expectations of CERCLA, either with a successful interpretive center or by other means if necessary.

56. Same, IC No. 2, Monitoring and Enforcement, pg. E-4– With regard to legal agreements to enforce, what happens if MDC or MDNR decide they no longer want the historical markers on their property or if this property is transferred to some other party that does not want the markers on its property?

Response: DOE expects that the revision to this discussion will clarify that historical markers are not a required institutional control. If the markers fail to communicate with the public, or they are destroyed or removed, DOE may need to seek alternative means to communicate with the public.

57. Same, IC No. 3, IC Description, pg. E-5– What criteria will be applied to determine whether a license, easement or permit would be applicable?

Response: The DOE real estate officer, in negotiations with the surrounding land owners, will establish the appropriate real estate mechanism to establish each specific restriction or real estate interest.

58. Same, IC No. 5, Land Ownership, pg. E-7– Does MoDOT have a routine maintenance/replacement plan that could be referenced to give some idea as to when the contaminated pipes/soil will be dealt with?

Response: No, but based upon our discussions with MoDOT and Missouri's many high priority roadway maintenance and improvement projects, replacement of these culverts does not appear to be imminent.

59. Same, IC No. 5, IC Description, pg. E-8– What if MoDOT won't grant a license or transfer an easement?

Response: DOE expects that the revision to this discussion will clarify that this agreement is not an essential institutional control. If MoDOT removes these culverts without DOE oversight and evaluation, the risk to highway workers and the environment has been determined to be negligible. DOE is attempting to establish a protocol which goes the extra mile to assure that MDNR's zero-tolerance radiological waste disposal requirements will be met regarding the disposition of the culvert materials and to provide DOE with an opportunity to evaluate any accessible soils or sediments during excavation of these areas.

MISSOURI DEPARTMENT OF NATURAL RESOURCES
COMMENTS ON THE
Long-Term surveillance and Maintenance Plan for the Weldon Spring, Missouri, Site, March 2004 Draft

General Comments:

1. Institutional Controls

a. It is unclear how DOE's proposed land use restrictions within Katy Trail State Park will prohibit or accommodate safe land disturbance in regards to trail and culvert construction and maintenance.

Response: The Draft Final version of the LTSM&P has been updated to clarify that an institutional control is not needed with MDNR Parks, since they do not own the underlying fee. Land disturbance along the trail would not be prohibited or restricted at any point.

b. Generally, DOE needs to address the contingency of the Katy Trail State Park being converted to rail service in the future and whether or not their assumptions under the risk assessment and their long term surveillance plan will be affected if construction and operation of a new railroad within the corridor is established.

Response: Construction of a railroad would not be prohibited by the institutional controls needed in this area.

c. The department would like to see the specific language for the institutional controls that DOE has proposed to the Missouri Department of Transportation and the Missouri Department Conservation. Additionally, we would like the portions of the use agreement that was signed by Lindenwood University that pertains to what rights the University has for changing its use of the building.

Response: DOE has shared the restrictive language it intends to place in the institutional control agreements, however the specific language of such agreements are still being negotiated with the landowners. Regarding Lindenwood University's occupancy of the administrative building, Lindenwood has no rights to alter the land use and its use of the administration building is restricted to its present academic use. Any changes are subject to DOE approval.

d. This document does not appear to contain all the necessary details of a Remedial Design/Remedial Action workplan as defined by EPA guidance for institutional controls and post closure monitoring and maintenance.

Response: The Draft Final version of the LTSM&P has been updated to reflect changes to the RD/RA workplan as this document is being prepared and finalized in parallel with the RD/RA workplan.

e. DOE has not outlined a potential reuse of the vast parking area and other property within the 200 acre chemical plant area, other than the Interpretive Center, Warm Season prairie and the administrative building. We encourage continued coordination of potential acceptable land uses with the regulators and other stakeholders, to maximize the reuse of this property.

Response: The parking area supports DOE's and Lindenwood University's use of the administrative building, the public's use of the hike and bike trail and the interpretive center. Lindenwood University's use of the administrative building and the establishment of the hike and bike trail, prairie, prairie garden and interpretive center represent a comprehensive approach to reuse of the chemical plant area.

Comment f.: Other states and tribes continue to view the situation at Weldon Spring, to gauge whether the DOE's strategy of on-site disposal of radioactive and hazardous waste is prudent, based on the robustness of DOE's commitment and follow through to ensure it remains protective.

Response: Comment noted.

2. Monitoring

Comment a.: It appears that the DOE's plan for determining site closure is based primarily on chemical monitoring for compliance with human health-based MCLs and minimally assessed impacts to aquatic biota. The impacts may be minor, but nevertheless exist. Consequently, the department requests copies of the documents referenced in Appendix B and used by DOE, which provide the basis for concluding that discharges from this facility pose minor risk to aquatic biota. How is the DOE going to comply with the Missouri Water Quality Standards contained in 10 CSR 20 Chapter 7 Water Quality? This plan should provide action levels for water contaminants that will trigger DOE to initiate mitigation of risk to aquatic biota if warranted. The same should also apply to any violation of the Missouri Water Quality Standards for surface and/or ground water.

Response: DOE believes that MDNR has previously received most if not all of the documents referenced and that they are available or subject to request on the Grand Junction website. Compliance with water quality standards is addressed under CRCLA during the feasibility study, proposed plan and record of decision phases. Action levels related to groundwater contamination have been determined during the RD/RA workplan process.

Comment b.: What are the trigger levels established for the groundwater near the quarry which warrant re-evaluation of the remedy. This should be noted in either the document or one of the appendices.

Response: The trigger levels for the groundwater at the quarry are discussed in Sections 2.9.1.3 and A2.4.2.1.

Comment c.: It is now evident that DOE is planning on leaving concentrations of some hazardous wastes (TCE, Nitroaromatics) that exceed Missouri regulatory limits in groundwater

at the Chemical Plant site and the Quarry. Because of this decision, the state may need to consider these sites for inclusion on the Missouri Registry.

Response: The DOE does not understand how a DOE-funded federal facility remedial action site which has implemented all of the remedies called for under CERCLA, would now qualify for inclusion on the Missouri Registry of Abandoned and Uncontrolled Sites.

Comment d.: This section references notification and acknowledgement letters will be sent in the case of unauthorized human intrusion or unusual national events. The DOE must ensure they do not externalize the cost of responding to LTS needs by deferral to others without adequate compensation. Does the DOE plan on having personnel on site during normal business hours that can respond and coordinate with authorities if unauthorized intrusion occurs?

Response: Yes.

Comment 3. Science and Technology.
The current Memorandum of Understanding between the Environment Council of States and several Federal Agencies, including DOE (item VI, paragraph 7) states that "There should be a mechanism to examine and share new technologies for cleanup and LTS actions over time and to consider whether the application of such would provide a more cost-effective means of assuring or enhancing protection of public health and the environment . . .." The only reference to this important issue is the inspection checklist, the last item. Some consideration of emerging science and technology should be used in order to have an adaptable, flexible, and robust LTSMP. Additionally, please add a section in the narrative portion of the LTSMP that gives the prominence this aspect deserves. In the past and most recently at the annual inspection (the new aerial photography), DOE has used new technologies. DOE should take credit for this and show that the intent is to continue on that path.

Response: Consideration of new science and technology will be addressed during the five-year review process. The Draft Final version of the LTSM&P has been revised to reflect this.

Specific Comments.

1. Section 1.1. Purpose and Scope. Bullet 3. Page 1-1.
States:

> *Assure regulators and stakeholders that DOE's institutional controls have been identified and are accompanied by redundancy and a commitment to provide surveillance and maintenance for the site for as long as required.*

The LTSMP should not only identify institutional controls, but should outline an implementation timeline, and specific legally binding language to ensure that they continue to be effective. The department recommends that DOE consider using the Universal Environmental Covenants Act as a basis for Institutional Controls at the site. At some point, we believe that this will become state law and the DOE should consider using Environmental Covenants now.

Response: The intention of the general bullet is to state the purpose and a revision is not needed.

2 Section 1.1 Purpose and Scope. Page 1-3.
States:

This LTS&M Plan is in effect upon receipt of concurrence from the U.S. Environmental Protection Agency (EPA) in consultation with the Missouri Department of Natural Resources (MDNR).

The department would like to remind the DOE, that while this document may be in effect, it can not be considered complete until such time as all institutional controls are finalized, as stated by the DOE in the December 5, 2002, public meeting.

Response: Comment noted.

3. Section 1.1 Purpose and Scope. Second paragraph.
States:

"*. . . portions of the surrounding area where radiological* {**add** 'and other'} *contamination was transported beyond . . .*"

Response: The document has been revised to add "and chemical".

4. **Section 1.1 Purpose and Scope**
States:

"This plan does not address property included in the Weldon Spring Ordnance Works Department of Army Superfund Site."

DOE is responsible for some contamination that is currently in groundwater and possibly soils beneath the Army property. This LTSMP should address the proper monitoring, maintenance and restrictions for this contamination.

The text has been revised to state: "This plan does not address the aspects of the CERCLA remedial action conducted by the Dept. of Army at the Weldon Spring Ordnance Works."

5. Section 1.1 Purpose and Scope, last paragraph
Some level of LTSMP activities is appropriate at all areas where contamination exists above "any use" levels.

Response: Comment noted.

6. Section 1.2
When describing the closest communities, it would be helpful to more broadly address the urban growth in the area. By only describing Weldon Spring and Weldon Spring Heights it minimizes the reality of the vast urban expansion in the St. Charles area. This expansion results in a greater potential for use of nearby schools and conservation areas.

Response: Residential and commercial growth in the area is addressed in the last sentence of the last paragraph of Section 1.2.

7. Section 1.3.1
Please explain where the material resulting from the decontamination (1984) of the chemical plant walls and floors went for disposal.

Response: This was prior to the DOE CERCLA remediation and was conducted by the Army. Army efforts consisted of consolidation or isolation of wastes on-site, which then were subsequently evaluated and properly disposed by DOE under the provisions of CERCLA.

8. Section 1.3.2. Remedial Action History. Paragraph 2. Page 1-8.
States:

> *Remediation of the Weldon Spring Site was administratively divided into four Operable Units (OUs): Quarry Bulk Waste OU, Quarry Residuals OU, Chemical Plant OU, and Groundwater OU. The Southeast Drainage was remediated as a separate action through an EE/CA report (DOE 1996). The selected remedies are described in the following sections.*

The department believes it would be appropriate to see the addition of a new section (1.3.2.5) for the Southeast Drainage EE/CA. This specific drainage composed of vicinity properties DA-4 and MDC-7 was remedied to a different standard than the other vicinity properties. Though the specific details are contained in Appendix A section A2.1.5.7 the department would like to have a summary of this section included in the main text of the document.

Response: The DOE agrees and has revised the Draft Final version of this document to include a separate summary section to address the Southeast Drainage.

9. Section 1.3.2.1 through 1.3.2.4. Remedial Action History. Page 1-8.
Within the summary for each operable unit there are bullets outlining the selected remedy. The bulleted summary needs to include a line item for institutional controls for those Operable Units that specified institutional controls in the Record of Decision.

Response: This is a brief summary section for each operable unit that describes the highlights of the remedial action activities. More detail for each operable unit is included in Appendix A and institutional controls are discussed in detail in Section 1.6 and Appendix E.

10. **Section 1.3.2.1**
Detailed cleanup criteria for the chemical plant should be included in this plan, versus being referenced in another document.

Response: The cleanup criteria are not referenced in another document. Detailed information regarding cleanup criteria is included in Appendix A in section A.2.1.2.

11. Section 1.3.2.2 Quarry Bulk Waste OU. Page 1-9.
This section needs to state that the bulk wastes are now contained in the onsite disposal cell.

Response: The Chemical Plant Operable Unit section prior to this states that the bulk waste was placed into the disposal cell.

12. **Section 1.3.2.2**
DOE should describe the results of the interim ROD using in situ chemical oxidation in this portion. While it worked in the localized area, DOE chose not to utilize this approach to address TCE for the remainder of the site.

Response: This is a summary section for each operable unit. The background information for each operable unit is included in Appendix A, which does include a discussion of in situ chemical oxidation.

13. Section 1.4 Final Site Conditions. Page 1-10.
The DOE must keep data on contaminated areas accessible to the public. The data and any interpretation should be kept current where contaminant levels have improved or degraded.

Response: All confirmation data is available in documents that are listed on the Grand Junction web site. There is no requirement, nor any plans for ongoing soil sampling in areas with residual contamination. Ongoing groundwater and spring water sampling and analysis will be available in reports and on-line at the Grand Junction web site.

14. Section 1.4 Final Site Conditions. Bullet 4. Page 1-10.
States:
Residual soil and sediment contamination remain in the Southeast Drainage.

Referring to all soil and sediment in the Southeast Drainage as residual is inappropriate. For the contamination to be "residual," some or most of it would have to have been removed first. For the most part that is the case; but there are areas that were not remediated due to accessibility issues. This statement would be more accurate if it read: "*Residual and unremediated soil and sediment contamination remains in the Southeast Drainage".*

Response: The Southeast Drainage cleanup removed the majority of the soil and sediment contamination, and therefore it is correct to depict the remaining contamination as residual.

15. Section 1.4 Final Site Conditions
Residual contamination remains offsite in a variety of areas near the quarry and chemical plant, neither of which appear to be adequately described and should be. This should include descriptions of soil and groundwater contamination levels remaining at the WSOW, which are above unrestricted use.

Response: The document has been revised to add "and at some surrounding areas" to the second bullet. The Vicinity Properties are discussed in detail in Appendix A.

16. Section 1.4 Final Site Conditions
States:
"Under current land use conditions, recreational, industrial, etc . . ."

The "land use conditions" should be further defined. They are not all the same and can change to be considered unacceptable

Response: This sentence is misquoted from the document. The State has added in "recreational, industrial, etc…" This is a summary level statement regarding current land use conditions and the discussion regarding land use restrictions is in the appropriate institutional control section.

17. Section 1.5. Legal and Regulatory Requirements. Page 1-10.
States:

> *Contaminated materials disposed of or stored at the quarry included process wastes from the Chemical Plant and debris from a decommissioned uranium ore processing facility in St. Louis, Missouri*.

Would the DOE please provide a more specific reference of this other facility(s).

Response: The DOE has revised the document to add "Mallinckrodt Chemical Company."

18. **Section 1.5. Legal and Regulatory Requirements. Paragraph 2.**
States:

> "*Most of the radioactive waste materials generated were uranium and thorium . . .*"

Please describe what other radioactive material and isotopes were generated, even in trace amounts.

Response: This sentence is misquoted from the draft LTSM&P text. The text has been revised to delete "Most of" since the sentence as written covers the radioactive material that was generated at the site. The paragraph also refers the reader to the appendix containing more detailed information regarding the contents of the disposal cell.

19. Section 1.5. Legal and Regulatory Requirements. Paragraph 4. Page 1-11.
States:

> *The radiological soil cleanup applicable or relevant and appropriate requirements (ARARs) and DOE orders for the remediation of the Weldon Spring Site include Title 40 Code of Federal Regulations Part 192 (40 CFR 192) and DOE Order 5400.5, Radiation Protection of the Public and the Environment.*

Records indicate that the EPA sent a letter to the DOE commenting on the current draft of DOE's 10 CFR Part 834 rule addressing *Radiation Protection of the Public and the Environment*. The draft of 10 CFR Part 834 was based upon DOE Order 5400.5. The purpose of this letter was to alert the DOE to concerns they had with the draft 10 CFR 834 rule, dated November 1, 1996. After the EPA's review, they found that they had serious concerns with the draft rule as it was written. The EPA's principal concern with the draft rule centers on the statutory need for Federal Facilities to be consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, as required under CERCLA Section 120(a)(2). The EPA was also concerned that releases may be allowed under this rule that could result in situations where action under CERCLA is required. In addition, this rule may result in sending a mixed message to the public, since the rule appears to be inconsistent with Superfund Legislative Reform Principles. The state would like to know how EPA's concerns been addressed?

Response: This comment is not relevant to this document.

20. **Section 1.5. Legal and Regulatory Requirements. Paragraph 5**
We agree that RCRA and the Missouri State hazardous Waste Laws and Regulations for management of chemical contaminants are ARAR's, including post closure requirements.

Response: Comment noted.

21. Table 1-1
Evaluating the results of the monitoring systems should also be included as a strategy to control exposure to wastes.

Response: Agree. Revised the Draft Final version of this document to add this to Table 1-1.

22. Table 1-1
Conducting regular inspections and maintaining adequate information "warning" signs should also be included as strategies to achieve the objective of exposure to the residual contamination, seeps and springs.

Response: Inspections are discussed in the appropriate area of the table. This is a table highlighting general objectives and strategies. The table indicates that information signs help tpo prevent the loss of knowledge.

23. Table 1-3, ARARs and DOE Orders for Postclosure Surveillance of the Weldon Spring, Missouri, Site, page 1-12.
The list of ARARs in Table 1-3 is abbreviated from the list of potential ARARs provided in the Feasibility Study (FS) from December 1998. One of the potentially applicable ARARs in the FS is 10 CSR 23-4.010 through 23- 6.010 (Well Construction Rules). According to Table 2-1 in the subject document, Weldon Spring Site Stewards and Their Functions, one of the functions of the Missouri Department of Natural Resources will be to issue and maintain well certification. Many groundwater monitoring wells will be plugged in the future at the Chemical Plant area, an activity that is regulated under the Well Construction Rules. The construction of any new monitoring wells or geotechnical wells on site or private wells adjacent to the site must also be in compliance with these regulations. This applicable ARAR should be included in Table 1-3.

Response: Agree. The text has been revised to add well construction rules to Table 1-3.

24. Table 1.3. Regulation or DOE Order. DOE Order 5400.5. Page 1-12.
States:

> *Establishes the maximum total effective dose equivalent for exposure of the public to radiation (≤100 mrem/yr above background).*

See comment on section 1.5. Legal and Regulatory Requirements. Paragraph 4. Page 1-11.

Response: This is the current standard established in the DOE Order.

25. Section 1.6. Institutional Controls. Paragraph 5. Page 1-13.
The department would like to see an expanded discussion explaining how "DOE will ensure preservation of the land use identified in the Groundwater Operable Unit remedy so that exposure pathways to contaminated groundwater remain incomplete, and groundwater use in the region does not cause unanticipated migration of contaminated groundwater." Because of the documented development occurring on property around the site it is important to address the contingency that the groundwater use may increase outside the "groundwater use restriction zones". As commercial/industrial development increases the economic need for high volume industrial use water supplies also increases. This increased use of groundwater could draw contaminated water beyond the restriction zones and adversely impact current or future private drinking water supply wells.

DOE should consider and discuss the need for working with the department to designate a "special well drilling area", as provided for in 256.600-256.640 RSMo adjacent to where environmental covenants are negotiated. Special well construction may be necessary within a designated range of contaminated groundwater in order to make sure new well construction and well pumping does not adversely influence the plumes of contaminants. Such discussions should be supported by groundwater modeling, as necessary. Discussions with all affected parties should be scheduled soon. Enforcement, funding of inspections, water usage and a well inventory are all factors to consider.

Response: The DOE feels it has identified an adequate buffer zone of 1000 feet based on hydrologic studies of the site. DOE does not accept MDNR's logic increased growth leads to increased demand for groundwater. Recent history indicates that this type of growth and the demands for water associated with it, lead to growth in the public water supply system as the only practical way to meet the demand. DOE believes that existing restrictive well drilling regulations are adequate prevent exposure to and spread of groundwater contamination. This is reflected in the institutional control discussion.

26. Table 1–5. Summary of Institutional Controls for the Weldon Spring, Missouri, Site. Page 1-14.

a. Institutional Control #1.
   Federal ownership in and of itself does not preclude inappropriate use of the property. Appropriate restrictions should be established and layered by rule, order, management plans or means which clarify the use restriction and outline the enforcement mechanism and penalties for failure to comply with use restrictions.

Response: Federal ownership and its oversight does preclude inappropriate use of the property. Appropriate restrictions will be acquired through the Federal realty process. These federal commitments will be enforceable under the Federal Facility Agreement.

b. Institutional Control #3.
   The department objects to the suggestion that an easement is an appropriate instrument to restrict groundwater use, as DOE proposes in IC #3. An easement is simply a right to use someone else's property, such as a right of way. Because we are looking at long-term

restrictions on groundwater an environmental covenant that clearly sets out the restriction, who can monitor and enforce DOE's compliance, and is recorded and runs with the land would be more appropriate. Also see the comment on Section 1.1. Purpose and Scope. Bullet 3. Page 1-1.

Response: A restrictive easement acquired by the Federal government is an appropriate instrument to restrict groundwater use. It is not simply a right to use someone else's property. A definition of restrictive easement is included in EPA's institutional control guidance. The easement is actually an estate which creates a covenant with the owner of the property and said easement runs with the land.

c. Institutional Control #4.
While a 200 foot corridor may be sufficient to restrict exposure to surface water, soils and sediments, it is not sufficient to restrict or ensure that future groundwater use is protective, and should be expanded appropriately.

Response: The Southeast Drainage is a closed system with little observable loss to adjacent drainages or the underlying groundwater system. The 200-ft corridor extends to the edges of this drainage. MDNR previously agreed to the size of this corridor.

d. Institutional Control #5.
The department does not believe a "license" is an appropriate way to restrict exposure as DOE suggests in item #5. A license simply gives DOE permission to do an act that, without such permission, would be illegal or a trespass. A license is revocable, making it a less than ideal land use control under these circumstances. For example, if DOE is closing some wells, on property it does not own, a license might be appropriate to allow that activity; but a license will not work for long-term limits on exposure. Additionally, see the comment on Section 1.1. Purpose and Scope. Bullet 3. Page 1-1.

Response: DOE believes a license to be an appropriate mechanism as the institutional control for the culverts since we are trying to reach agreement with an agency that has an easement but does not own the underlying fee. Therefore it represents further layering of institutional controls.

e. Institutional Control #6.
This IC is also designed to restrict disturbance of any residual contamination left in the quarry and adjacent property, not only the reduction zone.

Response: This specific institutional control is for soil and sediment located in the reduction zone. Other institutional control descriptions apply to the quarry. No other institutional controls are required for restricting land disturbance in the quarry area.

f. Institutional Control # 12
DOE should describe what uses are allowed in their Real Estate Use permit and which uses are prohibited. In the future, all real estate use permits should be reviewed by the regulatory agencies in advance of the completion; similar to requirements under DOE Order 4300.1c. and 430.1, in addition to Section 120(h)(1,3,4 & 5) of CERCLA.

Response: The use-permit is a DOE document granting another party rights for use of certain property. Federal real estate documents will not be reviewed by other entities. There is "privacy of contract" on such documents. DOE will govern the rights it permits to others. Any use of the buildings or property will be consistent with environmental remedies.

The following is an excerpt from the DOE response to the MDNR comments on the 2003 annual inspection:

> *The DOE does not consider the agreement with Lindenwood to use a part of the Administration Building to be a change in land use. The use of the building as an unrestricted administrative facility has not changed nor does it affect/alter the current land use.*
>
> In regards to the second part of your comment, nothing in these guidance documents, orders or the CERCLA statute states that DOE must notify the EPA and State before entering into a change of use or lease. The only related requirement regarding notification of States under the CERCLA statute is CERCLA 120(h)(5), which clearly **does not** apply, and states the following:
>
> *"Notification of States regarding leases: In the case of real property owned by the United States, on which any hazardous substance or any petroleum product or its derivatives (including aviation fuel and motor oil) was stored for one year or more, known to have been released, or disposed of, and on which the United States plan to terminate Federal Government operation the head of the department, agency, or instrumentality of the United States with jurisdiction over the property shall notify the State in which the property is located of any lease entered into by the United States that will encumber the property beyond the date of termination of operations on the property."*
>
> DOE has carefully crafted the agreement with Lindenwood as a "use permit." It is not a lease. DOE maintains ownership and environmental liability for actions occurring under Federal control.

27. Section 1.6. Institutional Controls. Paragraph 2. Page 1-19.
States:

> *Restrictive easements and other realty documents will be recorded in the records of St. Charles County under the system mandated by its regulations.*

The Attorney Generals Office has never seen the term "restrictive easement" used in any of the many Missouri cases they have reviewed. The term "easement" is generally defined in the cases that discuss easements as a property interest giving someone other than the fee title holder the right to take some action, often to have access to the property for a specific purpose. A common example is a utility easement. Utilities have a right to put in their equipment and then to return later to the property to maintain or repair the equipment. However, there are no cases we are aware where easements allow a party to prohibit a certain use of the property. Easements are

grants of certain rights, which means there should be a grantor and a grantee. Although property laws are similar in the 50 states, one size does not fit all. A restrictive covenant, which is a term often seen in Missouri (along with deed restriction), does authorize a property owner to prohibit certain activities on the property.

Please provide the department with the examples of Missouri Case Law that the DOE has to support its position that a "restrictive easement" is enforceable under Missouri Law.

Response: The definition of easement included in EPA Institutional Control guidance does include restrictive easements. The restrictive easement creates a restrictive covenant with the owner of the property. Table 1-5 and the text of Section 1.6 have been revised to reflect the new approach to institutional controls, which relies on existing regulatory controls and existing real estate agreements to meet the minimum requirements, and then proposes additional layers of institutional controls consisting of easements, licenses and agreements.

28. Section 2.1.1. Role of DOE. LTS&M Plan Revision. Page 2-2.
The department feels that this is significant enough that it merits expansion, additional detail and a separate section within section 2.1.

Response: The role of DOE is already described in a separate section of 2.1, i.e. 2.1.1. Absent specific suggestions regarding expansion of this discussion, DOE believes it is adequate as a summary of its role, leaving the specific commitments and obligations to be discussed in detail throughout the document.

29. Section 2.3.1. Frequency of Inspections. Page 2-6.
States:

> *DOE will inspect the Weldon Spring Site annually to confirm that institutional controls remain effective and to determine if maintenance or additional monitoring are needed. Variation to this inspection frequency will be explained in the inspection report.*

Please explain what "Variation" means in this context. Does this mean that DOE could unilaterally decide to skip annual inspections?

Response: DOE's commitment is to continue the inspections annually. The term "variation" was only meant to indicate that scheduling could result in slightly more than 12 months between inspections. Going to a regular, less than annual, frequency would require a revision to the LTS&M Plan.

30. Section 2.3.2. Inspection Procedure. Page 2-7.
States:

> *Inspectors will look for modifying processes or threats to disposal cell integrity such as creep, bulging, differential settlement, erosion, or rock degradation.*

It is unclear how DOE will be able to identify if the soil cap beneath the rock cover settles and/or ponds. It will be very difficult or nearly impossible to do this visually. How does the DOE plan to inspect for settlement of the soil cover?

Response: If differential settlement occurs in the soil, we would expect to see it in the rock cover. Ponding in the soil cap or any other lower level would also evidence itself at the surface. The rip rap cover would not be capable of bridging over such differential settlement beneath it.

31. Section 2.4.1. Criteria. Page 2-15.
States:

DOE will notify EPA and the MDNR of a follow-up inspection upon identifying the need to conduct such an inspection.

The department requests that it be informed about any concerns brought to the DOE's attention whether it merits a follow-up inspection or not.

Response: DOE gets a variety of questions, concerns, etc., brought to its attention via phone or visits to the Interpretive Center. It would be burdensome to report unnecessary concerns that do not require follow-up.

32. Section 2.5. 5-Year Review. Page 2-17.
States:

The next 5-year review report will be released in 2006; therefore, the 2005 inspection will be structured to support the 5-year review.

Section 3.5.3 on page 3-5 of EPA's Comprehensive Five-Year Review Guidance, June 2001, states: *"For purposes of conducting site inspections for five-year reviews, "recent" generally means no more than nine months from the expected signature date of the review."* Does the DOE intend to meet this EPA recommendation?

Response: DOE intends to inspect in the fall of 2005 for the report to be delivered in late summer 2006.

33. Section 2.5. 5-Year Review, paragraph four, page 2-16.
According to the text, "at five-year intervals, in addition to the annual visual inspections, general differential settlement of the cell cover will be monitored through the use of terrestrial and/or aerial surveys . . .." However, there is no reference to terrestrial surveys in Section VIII Chemical Plant Disposal Cell (page H-13) of the Initial Annual Site Inspection Checklist, which indicates that only an aerial mapping survey will be conducted. It is suggested that if differential settlement is suspected that a terrestrial survey of the suspected area also be performed.

Response: DOE agrees with the suggestion that the most applicable use for a terrestrial survey would be in the event that a differential settlement occurred and needed to be resolved.

34. Section 2.6. Routine Site Maintenance and Operations. Roads and Walkways. Page 2-17.
States:

MDC will be responsible for maintenance of the Hamburg Trail.

Does this include the portion of the trail on DOE property?

Response: MDC will be responsible for maintaining the Hamburg Trail providing the necessary document is signed. If not, DOE will maintain that portion of the trail on federal property.

35. Section 2.6. Routine Site Maintenance and Operations. LCRS. Page 2-17.

States:

The LCRS sump is a confined space, and methane is generated by peat in the liner system.

The DOE needs to include a confined space entry procedure in appendix I. In addition, the leachate monitoring and action plan needs to be referenced or contained in the appendices.

Response: DOE agrees to add a confined space entry procedure to Appendix I. Appendix I includes the LCRS Operations Plan.

36. Section 2.7.1 Disposal Cell Detection Monitoring. Paragraph 2. Page 2-19.

States:

DOE will monitor groundwater upgradient and downgradient of the disposal cell and will also monitor Burgermeister Spring (SP–6301) during low flow as part of the disposal cell monitoring program.

Given the historic sensitivity of contamination of Burgermeister Spring (SP–6301) in relation to rainfall sampling during low flow conditions is imperative. The DOE should measure the low rate at the time this location is sampled, so that not only can contaminant concentrations be tracked in relation to flow rates, but also total contaminant masses can be calculated.

Response: DOE has collected considerable data in cooperation with USGS regarding flow rates at Burgermiester Spring. This historical information is sufficient to recognize and sample at low flow conditions. To precisely monitor the mass of uranium at this location is not necessary.

37. Section 2.7. Environmental Monitoring. Page 2-18.

The department is assuming that there will be another draft of this document after the groundwater RD/RA has been finalized and appropriate information from that document will replace/supplement the existing text. Is this the case?

Response: Text has been modified in the Draft Final version of the LTS&M Plan to reflect changes emerging from the Draft Final GWOU RD/RA Work Plan.

38. Section 2.7.2 Groundwater OU, paragraph one, page 2-20 and Section 2.7.2.2 Detection Monitoring (Objective 3, 4 and 5 Locations), paragraph one, page 2-24.

It is stated in these paragraphs that "slight impact has been observed in the unweathered Burlington-Keokuk Limestone at the Chemical Plant area." Since no specific locations of "slight impact" are identified, the reader could interpret this statement to mean that the full extent of the Burlington-Keokuk Limestone underlying the Chemical Plant area is slightly impacted. The

specific area, beneath the former raffinate pits, of slight impact, is identified in Appendix A, Section A2.2.1.1 Groundwater. It is suggested that the specific area of slight impact be included in Sections 2.7.2 and 2.7.2.2 in the next revision of the Long-Term Surveillance and Maintenance (LTSM) Plan.

Response: Text has been modified in the Draft Final version of the LTS&M Plan to reflect changes emerging from the Draft Final GWOU RD/RA Work Plan.

38. Section 2.7.5 Air Monitoring.
DOE's comments regarding the levels obtained for radon monitoring appear accurate. We can agree to disagree on whether air monitoring is necessary and appropriate in the future. While radon levels were reported to be in compliance upon construction of the cell, failure to monitor them in the future does not ensure levels will remain protective. At a minimum, radon monitoring should be conducted during the five-year review periods; based on weather conditions and site deterioration (i.e. a significant period of drought will likely desiccate the clay radon barrier allowing radon discharges to increase.)

Response: Drought conditions are not expected to impact the radon barrier, which is located below the synthetic cap and several layers of sand/gravel bedding and rock cover. Radon flux monitoring is not possible on the rock armor cover due to the protocols and methodology, which require a seal around the cannister. Continuous radon monitoring could be employed if significant deterioration of the cell cover has been documented.

40. Section 2.9. Emergencies, Contingency Planning, and Corrective Action. Page 2-31
States:

- *Concentration limits exceeded or sustained upward trends at monitoring locations.*
- *Excessive leachate production in the disposal cell.*
- *Rapid headward erosion of nearby drainage's.*

"Sustained", "excessive", and "rapid" are subjective terms, open to interpretation. These need to be replaced with measurable criteria.

Response: General terms are used in the introductory section, with more detail regarding specific occurrences provided later in that section of the document.

41. Section 2.9.1. Groundwater Contingency Actions. Page 2-32.
The department is assuming that there will be another draft of this document after the groundwater RD/RA has been finalized and appropriate information from that document will replace/supplement the existing text. Is this the case?

Response: See Response to Comment 37. The LTS&MP has been revised and is now in the draft final version.

42. Table 2-1 has St. Charles County listed as the entity that will be responsible for institutional control oversight. It should be DOE.

Response: Agree. The text has been modified.

43. Table 2–10. Estimated Annual Funding Requirements for Long-Term Surveillance and Maintenance of the Weldon Spring, Missouri, Site Base Year Fiscal Year 2005. Page 2-39.

The department requests that this table contain more detail. Specifically, it should include a break down of each line item so that we may have a better idea of what DOE has envisioned for post-closure activities, including support for the local governments, local citizens groups and state government.

Response: This estimate is of sufficient detail to indicate that all aspects of the LTS&M Plan are covered. DOE expects these costs to actually be reduced once the final GW RD/RA Work Plan is put in place. Individual grants, with specific scope, will be discussed individually with state and local entities.

44. Section 2.12. Records and Data Management. Page 2-40

States:

The local surveillance and maintenance documents available at the Interpretive Center will include the following (only those documents marked with an asterisk will be maintained at the library):

The department would like to see the Five-Year Review Reports be added to the list of those documents that will be maintained at the library.

Response: Agree. The text has been modified.

45. Section 2.12. Records and Data Management. Page 2-40 and 41.

States:

36 CFR Parts 1220–1238, "National Archives and Records Administration"
DOE/Office of Legacy Management Draft Weldon Spring Site LTS&M Plan
March 2004 Doc. No. S00790AE

Title 44, United States Code (U.S.C.), Chapter 29, "Records Management by the Archivist of the United States and by the Administrator of General Services," Chapter 31, "Records Management by Federal Agencies," and Chapter 33, "Disposal of Records."

Would the DOE please give a more detailed explanation of how this will ensure that the documents will be available in perpetuity?

Response: Text has been revised to provide additional information.

Appendix A Comments

46. Section A1.2 Physiography and Topography, paragraph four, page A-4.

The topic of this sentence is surface water loss to the subsurface through losing stream segments and discharge at Burgermeister Spring. For clarity, it is suggested that this sentence be

incorporated with the preceding paragraph that discusses the drainage from the northern and western portions of the site. In addition, the sentence is only true for surface water originating on the northern and western portions of the site. Other springs are recharged from surface water runoff from the southern portion of the site.

Response: Agree. The text has been modified.

47. Section A2.2.1.1 Groundwater, paragraph six, page A-45.
There is a probable typographical error in this paragraph. According to the text, there are 254 wells in the raffinate pits area that had detectable concentrations of at least one VOC. Since there are probably fewer than 254 wells for the entire Chemical Plant area, this number in the raffinate pits area is probably incorrect. The number of wells affected in the raffinate pits area should be verified and the correct number used in the next revision of the LSTMP.

Response: Agree. This is a typographical error. The text has been modified.

48. Section A2.2.2 Remedial Activities, paragraph two, page A-47.
Additional field tests and TCE treatment alternatives are briefly discussed in this paragraph and then the text jumps to a discussion of the Record of Decision in the next paragraph. More detailed discussions of the pumping tests and in-situ chemical oxidation process are included in Sections A2.2.2.2.1 and A2.2.2.2. It is suggested that a statement such as "See Sections A2.2.2.2.1 and A2.2.2.2 for an expanded discussion of the additional pump and treatment alternatives" be included at the end of paragraph two in the next revision of the LSTMP.

Response: It is unnecessary to reference sections that immediately follow the introductory section.

49. Appendix B Comments
The recreational scenario discussed in the risk assessment does not appear to take into consideration the exposure levels to state parks workers regularly on the trail and who may be disturbing soil in order to repair the trail and culverts along the trail. State Park worker safety needs to be addressed and a procedure in place for contacting and working with the DOE to eliminate health risks to state employees if they are going to be working within contaminated areas.

Response: There is no residual contamination on the Katy Trail.

50. Appendix E Comments
a. Institutional Control No. 2 should identify site security, vandalism, and monitoring for other emergency situations within its purpose.

Response: That is not the purpose of Institutional Control #2.

b. Institutional Controls Nos. 6 and 7 assume that the Katy Trail State Park is owned in fee simple by the Department of Natural Resources and that the department has the legal authority to grant such a restrictive covenants. The Katy Trail State Park is owned both in fee and in

easement, depending upon the grant to the railroad by the original landowners - so such an assumption is not valid. DOE needs to research and confirm ownership through a title company and a licensed land surveyor. However, to the extent that DOE seeks institutional controls for the land where the Department of Natural Resources had an easement, the department, as an exclusive holder, would be required to approve the controls to ensure they do not interfere without easement.

Response: The areas of the Katy Trail that are of interest to DOE are near the DOE Quarry and the Southeast Drainage, which appear to be owned by the Missouri Department of Conservation which owns the surrounding land. DOE will negotiate the restrictive easement with MDC unless MDNR can provide proof of its fee ownership of the underlying fee title to the trail. The easement would not interfere with operation of the encumbering right-of-way with MDNR.

b. Institutional Control No. 6 restricts physical disturbance of the quarry area reduction zone. This includes land owned or managed by the department. We need clarification as to whether the proposed restriction would prohibit trail maintenance and construction, including culverts underneath the trail.

Response: The quarry area reduction zone is not in Katy Trail right of way, and therefore will not impact trail operations or maintenance.

51. Appendix H Comments

Section VIII Chemical Plant Disposal Cell

In the inspection checklist there is no place in the checklist to outline if each area inspected is in satisfactory or unsatisfactory condition. In addition, there are no timeframes on when an unsatisfactory condition will be remedied.

Response: Not all of these items are conducive to a yes or no and/or satisfactory or unsatisfactory condition and that is why it is left to the inspector to include notes. Time frames for corrective action are established when the inspection report is prepared unless an emergency situation is encountered.

RSMO 327.181 and 4 CSR 30.060(4) provides definitions and references examples of documents requiring an engineer's seal. Reports, which the annual inspection results are compiled in, are noted in the example. Furthermore, because engineering controls are used to secure protectiveness of the site, it is only logical that a qualified and competent engineer be responsible for or in charge of assessing if the controls remain protective. The department feels that Section VIII of the site inspections should bear a qualified engineer's seal.

Response: “Reports” is a very general term used in these cited definitions. DOE maintains that such a certification is not required by any regulations cited as ARARs in the site RODs.

Weldon Spring Citizens Commission
7295 Highway 94 South
Saint Charles, Missouri 63304

Voice: 636-300-0037

Fax: 636-300-0068

May 12, 2004

Pamela Thompson, Project Director
United States Department of Energy
Weldon Spring Site remedial Action Project
7295 Highway 94 South
Saint Charles, MO 63304

Dear Ms. Thompson:

The Weldon Spring Citizens Commission (WSCC) appreciates the opportunity to review and comment on the *Long-Term Surveillance and Maintenance Plan for the Weldon Spring Missouri Site, March 2004.* Since the Commission received the very disappointing August 2002 version of the Long-Term Surveillance and Maintenance (LTSM) Plan, DOE has worked with all stakeholders to provide a strong and adaptable stewardship document. The Commission values DOE's efforts to address the Commission's past concerns. Since the 2002 document was issued, DOE has expanded and clarified the sections in the text concerning public participation and stakeholder responsibilities. A majority of old concerns have been addressed in this document. A few outstanding issues such as security, signage and institutional controls remain.

DOE and all of the stakeholders have demonstrated that hard work, cooperation, and struggle can direct the path forward. Stewardship is an iterative process and the Commission is confident that we are approaching resolution of most stakeholder issues.

Sincerely,

Weldon Spring Citizens Commission

Cc: (with attachment)
Mike Duvall, Director, St. Charles County Division of Environmental Services
Mimi Garstang, Director, GSRAD
Dave Geiser, Director, USDOE Office of LTS
Joel Porath, Wildlife Regional Supervisor, MDC
Ben Moore, Environmental Engineer, MDNR
Joe Ortwerth, County Executive, St. Charles County
John Vogel, Wildlife Management Biologist, MDC
Dan Wall, Remedial Project Manager, Superfund Division, USEPA-Region VII

Email: wscitizenscommission@yahoo.com

May 11, 2004

WSCC COMMENTS ON THE DEPARTMENT OF ENERGY'S LONG-TERM SURVEILLANCE AND MAINTENANCE (LTSM) PLAN, MARCH 2004

1. The Weldon Spring Citizens Commission (WSCC) still strongly believes that wording should be added to the planned signs to indicate that residual contamination is still present at the site. A phone number could be provided for more information. The Commission is currently working with the Missouri Department of Conservation regarding signage on their property.

2. The WSCC would like to see a revised schedule or timeline that addresses the completion and implementation of institutional controls (ICs). In addition, the Commission would like to see the schedule updated on a monthly or quarterly basis.

3. Though DOE has reviewed the potential for security problems at the site, the issue of security and how it will be addressed at the site is still a concern for the WSCC.

4. Based on Section 1.6, the U.S. Environmental Protection Agency's (USEPA's) drinking water standard for uranium is currently not considered an applicable or relevant and appropriate requirement (ARAR) for areas located south of the Femme Osage Slough. If concentrations of uranium south of the slough increase to 20 pCi/L, would the USEPA's drinking water standard become an ARAR?

5. Based on the revised LTSM Plan, DOE's previous responses to WSCC comments, and the recent inspection, the two culverts containing some residual contamination are now included in the annual inspection. ICs will also cover these two areas. The text now includes a list of a number of the annual contacts including MDOT. However, agencies such as St. Charles County Planning and Zoning are not included and very little detail is provided concerning the criteria and procedures that will be used, the questions that will be asked, and future documentation of the visits/phone calls (such as notes). In addition, when problems are noted, such as those found in the most recent inspection, how will DOE communicate these problems or address possible exposure? Please include St. Charles County Planning and Zoning on the list of contacts and provide more detail about the information relayed to the contacts and the questions asked. Also, in the future, a number of other agencies/departments such as the Missouri Department of Natural Resources (MDNR) well records and County Recorder of Deeds should be contacted.

6. Could DOE include a generalized development map of the site and the local area within about 5 miles of the site? The map should show areas considered developed (urban areas), undeveloped (i.e., the site, Busch Wildlife Area, rural farmland) and those areas that are considered under stress for future development (mostly undeveloped, but urban growth anticipated). The map could be revised as needed (maybe every 5 years). This would provide the DOE, the State, the County and the public with a picture of where problems might arise in the future.

7. ICs in Appendix E – Under "Monitoring and Enforcement," one bullet for each IC described indicates that "Inspectors will ensure that land use continues to be in compliance with the terms of the" easement, license or restriction. How will inspectors "ensure" enforcement?

8. This comment relates to the previous WSCC comment B30. DOE misunderstood the Commission's original comment. The WSCC was asking for more signs with DOE's 24-hour phone number. The number will be placed near the Interpretive Center and the Cell. The 24-hour number could be added to signs DOE has placed throughout the area. All visitors to the area may not see the number at the Interpretive Center or the Cell.

9. Problems such as vandalism to the site or site wells should be identified/published somewhere. This alerts the public and may help to limit future incidents. If aware of such incidents, the WSCC could document the problems and inform the public in newsletters.

10. In DOE's response to WSCC comment B42, DOE indicated data would be available within 60 days. However, the text does not provide a timeframe. Will data be available to the Commission in 60-90 days as previously promised?

11. If wells exhibit a significant increase in the concentration of a contaminant, how will DOE prevent an excessive waiting period between the first increase observed and an increase in the frequency of monitoring? An excessive waiting period should be avoided.

12. The text does a better job of explaining why 300 pCi/L is used as a trigger level north of the slough. Is the trigger level of 20 pCi/L used for both the area directly south of the slough and the well field? Can this issue be clarified in the text?

13. Can the DOE provide more detail about the procedures and criteria that will be used during the inspection for IC violations? Will DOE check with the MDNR Department that registers wells?

14. Based on the second paragraph of Section 2.2, DOE guarantees operation of the Interpretive Center only through the calendar year 2004. The WSCC believes DOE's commitment to the Interpretive Center should last as long as DOE's liability for the site. The Interpretive Center provides a type of IC that impacts public perception. Public perception is difficult to quantify, but a positive public view of the site is priceless. The Commission plans to foster community participation in the Interpretive Center.

15. Will some fish tissue sampling associated with Lake 34 and possibly Lake 36 be included in the LTSM Plan? The issue is one of perception, but it's an important issue to the public.

16. The WSCC hopes DOE will continue to work with the EPA and MDNR to resolve issues regarding funding, signatory authority, trigger levels and monitoring locations.

DOE RESPONSE TO WELDON SPRING CITIZENS COMMISSION COMMENTS
on the March 2004 Draft Long Term Surveillance and Maintenance Plan
for the Weldon Spring, Missouri, Site

1. The DOE developed the Historical Marker committee to provide input into the language for the signs to be placed in various areas on and around the site. DOE believes that the committee was in majority agreement about the language on the signs. Regarding residual contamination, several of the signs indicate that a radiological and chemical cleanup took place. Some of the signs include contact phone numbers.

2. The Draft Final Long-Term Surveillance and Maintenance Plan (LTSM&P) now describes the process for acquiring real estate agreement type Institutional Controls (ICs). DOE believes that the required ICs are essentially in place and what remains to be completed are "additive" ICs. DOE is unable to commit to a schedule since we are dependent on good faith negotiations with landowners. DOE will update progress in the FFA quarterly reports.

3. Comment noted.

4. Yes, the DOE has recognized 20 pCi/l (30 ug/l) as the ARAR for groundwater south of the slough, which is a usable aquifer by EPA definition. Sections 2.7.3 and 2.9.1.3 discuss this target concentration and the DOE response. Because groundwater south of the slough has not been, and is not expected to be, impacted, this ARAR is not a cleanup standard for the current Quarry Residuals Record of Decision.

5. The culverts have been identified previously for inspections and institutional controls. Emergency communication is described in Section 2.9 and routine communication includes the FFA quarterly reports and the annual inspection report and meeting. St. Charles County Planning and Zoning and the St. Charles Recorder of Deeds are listed in the plan as an annual contact with details concerning the criteria, questions and future documentation. DOE agrees that this is an area that will likely continue to be modified and expanded upon in the future.

6. This type of map is best developed by County planning and zoning agencies. DOE will be conducting aerial surveys and aerial photography periodically and these efforts will aid in the assessment of surrounding impacts.

7. Inspectors will document problems for follow up enforcement.

8. The 24-hour number was added to signs at the quarry, LCRS and Interpretive Center. The sign locations which have the 24-hour number represent a consensus from the committee (See also response to comment #1).

9. This information will be included in the annual inspection report.

10. The time frame of 60-90 days is included in the plan in Section 2.7, first paragraph.

11. DOE believes the monitoring programs in place will be responsive to abnormal data and will avoid excessive waiting periods.

12. Yes, 20 pCi/l (= 30 ug/l) is the trigger level south of the slough, including the well field. Sections 2.7.3 and 2.9.1.3 describe the planned reaction to this occurrence.

13. Section 2.3 and Appendix H of the plan provides this detail. The requirement for the DOE to check with the MDNR Department that registers wells is also included in Section 2.3.

14. DOE appreciates the WSCC support and intends to keep the Interpretive Center open as long as it serves the need for ongoing public education regarding the cleanup.

15. DOE is working with MDC to establish a modest level of fish sampling. If agreement can be reached, it may be appropriate to include this sampling in the LTSMP.

16. DOE will continue to work with EPA and MDNR regarding these issues.

DANIEL W. MCKEEL, JR., MD

Public Comments on the Draft "Long Term Surveillance and Maintenance Plan for the Weldon Spring, Missouri, Site"

(US Dept. of Energy
Office of Legacy Management
Report GJO-2004-592-TAC)

March 2004

General

The following comments are made in response to the issuance of a third draft of the Weldon Spring Site (WSS) LTSM plan dated March 2004. This report is funded under DOE contract No. DE-AC01-02GJ79491.

I feel compelled to express serious concerns I have as a stakeholder who has closely followed developments at the site for the past four years. Specifically, regarding the March 2004 draft plan issued 18 months after active remediation ended 9/30/02, I am disappointed and gravely concerned by: (a) the lack of progress in having but one of many Institutional Controls in place. My concern extends to the Missouri Dept. of Conservation who, like DOE and the Missouri Department of Natural Resources (MDNR) has participated in the delay in issuing ICs; (b) by the lack of a legally binding Federal Facilities Agreement (FFA) between DOE, US EPA and MDNR; (c) by the inaction by the Missouri Department of Conservation in having ignored ATSDR 1995 Health Assessment recommendations: (1) to post warning signs about risk posed to the public by eating the fish; and (2) that site contamination maps "are available" at the Busch Wildlife headquarters[1]; (d) that ATSDR, after issuing its 1995 (WSOW) and 1997

[1] Dan and Louise McKeel visited Busch headquarters twice during 2001-2003 and were told by staff and director John Vogel of MDC that, to their knowledge, no such contamination maps ever existed. In 2004, at the most recent WSCC meeting, Mr. Vogel asserted he had recently discovered a brochure and contamination map in a desk. He then responded to a letter from Dan McKeel that he could not say under what circumstances, or when, this newly discovered brochure was (and by implication, *if it ever was*), made

(WSSRAP) health assessments, and having had part of its recommendations ignored [see (c)], were apparently not informed after 1997 of significant new WSS developments that included the presence of **TCE**, the newly discovered presence of 74 metric tons of **recycled uranium** (previously irradiated in a nuclear reactor) and transuranic elements derived therefrom (plutonium, neptunium, technetium-99 were mentioned in an anonymous undated WSSRAP fact sheet that surfaced in 2001 about this development), and the **new radiologic survey data** (see Pamela Thompson's letter and data transmission to me from December 2002) on the haul road (renamed Hamburg Trail), disposal cell steps and platform with "background counts" in the range of 3,000 to 5,500 counts, a number that some of the public and knowledgeable experts believe indicates contamination beyond reasonable expected background levels.

Specific Comments and Concerns

- The following page numbers refer to the beginning of the relevant subsection as listed in the Table of Contents.
- The provision of large color foldout maps in the printed version is commendable.
- One notes that about 2/3 of the March 2004 draft LTSM plan is Appendix material.

Page i (not numbered) - Adding the key DOE-GJO URL and phone number, and the DOE-WSS local phone number is a welcome element.

Page ii (title page) - The exact relationship between GJO Colorado Office of Legacy Management, cited on this page, and the new DOE legacy office established/budgeted in 2004 headquartered in Washington, DC and explained by David Geiser at the 2004 first annual WSS inspection public meeting, is still unclear to me as to who are the key personnel managing the LTSM at WSS program. Are Ray Pleiness and Art Kleinrath still involved, for example? Is WSS still considered a branch of GJO Grand Junction, or is it a branch of the Washington DC office? The current chain of command within DOE for

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available to the public. No warning signs about fishing at the MDC owned Busch or Weldon Spring conservation area vicinity properties were ever posted from 1997 to the present to my knowledge.

managing WSS should be explicit and very clear with office addresses and contact names, phones and Fax numbers, and e-mail addresses.

Section 1.3

[1] It should be noted that NIOSH will be preparing a Technical Basis Document (TBD site profile) for WSS (as it has done for the downtown MCW site - FUSRAP SLDS), and that this document will be cited in the next WSS LTSM to amplify the current brief site history provided in the present section.

[2] I believe the Site History should include more information about DOE cleanup activities during the 1980s prior to NPL status and CERCLA remediation that began around 1987. For example, the Bechtel 1984 contract from DOE where a leak from the raffinate 4 pit was repaired and a levee built should be mentioned.

Section 1.4 (page 1-10) and related APPENDIX C

[1] The list of the contents of the disposal cell listed in Appendix C as "Occupied Cell Volume" is inadequate and should be accompanied by a gridded map, with grid locations (work zones?) indicated on the Table that extends from page C3 to C7. The phrase "Work Zone Per WP437" should be explained. What is WP437 and where can this information be found? At a previous meeting Pamela Thompson produced a detailed spreadsheet that gave the number of Curies of cell radionuclides broken down by specific radionuclides. This key information appears to be missing from the Table C-1 and I urge it be incorporated in the next iteration/s and in final LTSM document. If radionuclide breakdown data appears in other sections or the report, then it should be linked to here.

[2] As I have commented upon previously, while stating cubic yards for various radioactively and chemically contaminated work zone materials is interesting, the relevant data is the **number of Curies of specific radionuclides, and the concentration of specific chemical contaminants (TCE, nitrates, nitroaromatics, heavy metals, PCBs etc.).** I should add that I have asked for a complete inventory of the cell many times, the latest in a FOIA request to Pamela Thompson dated 4/6/04; it is difficult to understand why the full release of cell inventory information has been delayed so long.

[3] With regard to the status of the haul roads, Appendix page C-6 contains a statement that alarms me the most—**under "Misc. Contaminated Items" is stated "resurfacing of contaminated haul roads**." This line of text directly contradicts project director Thompson's answer to my questions about possible haul road/cell radioactive contamination at previous public meetings and Historical Marker working group meetings, that there *never had been* any such contamination of the quarry-to-chemical plant haul road (renamed Hamburg Trail) because the haul trucks were always tightly covered by tarps, and no debris ever spilled out of them onto the haul roads. These comments were captured on videotape and can thus be documented. They misled the public and provide strong impetus for further investigations of the extent of **current Hamburg Trail (old haul road) and cell step and platform radioactive contamination** alluded to in the previous paragraph. I find this discrepancy in the statement on page C-6 and Ms. Thompson's public answers to be very disturbing because of the obvious adverse health implications (increased risk to radiation exposure) of radioactivity, on Hamburg Trail or the cell steps and platform, to thousands of visitors who are expected to visit the Hamburg trail and engineered disposal cell each year.

[4] On pages C-6, subsection "Army Waste", the statements "Wastes from Army property" and "As received, 26,200 cy. Conversion is 0.9" and on Page C-7 subsection "Wastes in the Cell Dimple" , wording "Waste from Army property ... placed and compacted in the cell dimple" are unacceptable because they are vague, unclear and omit the *nature of the waste*. Conversion of what? DOE has a duty to the public to be clear. This Army "waste" must be defined in terms of its chemical composition such as TNT, DNT, nitroaromatics or other specific terminology. I continue to be appalled by the reluctance, and repeated avoidance, by DOE in many reports of documenting for posterity specific contaminants of concern. Nitroaromatics are current contaminants of concern (COCs) in WSS and WSOW groundwater, for example. Leaking from the cell into underlying aquifers must be monitored (and paid for with tax dollars) for the foreseeable future. How can this be done intelligently if a possible source (nitroaromtic compounds in the cell) of COCs is identified so vaguely. This oversight must be addressed in the next iteration/s and final LTSM plans.

[5] An explicit statement with an affidavit needs to be included, perhaps as an additional institutional control, that the information in APPENDIX C is (a) complete, (b) truthful, and (c) verifiable and how this can be accomplished. For example, two sources have told me anecdotal information that radioactively contaminated haul road trucks, or parts thereof, used to carry quarry radioactive materials to the cell, were placed within the disposal cell after their safe and useful life was expended. Yet such items do not appear in Table C-1. Either these former site workers were misinformed or were deliberately not telling the truth, or omission of the trucks/truck parts was a DOE oversight when constructing Appendix Table C-1.

[6] The LTSM document needs to provide additional information about the process by which specific contaminants were placed within specific map-identified locations within the disposal cell, about what work zone and contamination maps of the disposal cell exist, and where such information can be located for ready access by first responders, in case leakage from the cell that requires further remediation occurs and is detected in the future.

Section 1.6 (Page 1-13 through 1-19) and APPENDIX E

[1] Lack of completion of but one Institutional Control (IC) to date is regrettable. A full explanation of the work being done, and the reasons for delays in completing this vital work 18 months into the LTSM phase, must be added here in future iterative draft and final LTSM plans. The sentence on Page 1-13 beginning "DOE will establish..." will hopefully soon be changed to "DOE has established and completed..." The situation is like the boy crying wolf story, "DOE will establish..." becomes less and less credible as more time elapses without satisfactory explanations of specific progress and evidence of completed ICs.

[2] Engineering ICs could and should include informational signs and physical access barriers at Burgermeister Spring 6301 in the Busch Conservation area, and at the radioactively contaminated SED as it crosses Katy Trail (MDNR state park site) between the chemical plant/disposal cell and quarry remediated sites. Informational signs should be posted at the monitor well field along Katy Trail that spans the most contaminated groundwater lying south of the quarry but north of the Femme Osage slough. The slough

and Busch Lakes (particularly 34, 35 and 36) should also have informational signs about specific risks of the water and the fish, including advice not to eat them. The signs should mention risk levels and specific COCs uranium, nitrates, TCE and nitroaromatics, all of which are toxic and carcinogenic to humans.

[3] The third type of IC mentioned on Page 1-13 is educational. The sentence with the phrase "... such as through the Weldon Spring Site Interpretive Site" should be extended to include "... Site, informational signs informing the public about specific risks and contaminants of concerns at the contaminated locations, and provision of explicit brochures telling the public about COCs and risks." Many visitors along Katy Trail and at Busch and Weldon Spring conservation areas simply will not go to the Interpretive Center (it is a long hike!)—risk/COC information must be available at the contaminated sites in order to reach the intended audiences, CA and trail hikers and bikers.

[4] APPENDIX E, ICs 2, 3, 4, 6 and 7 should include informational signs alerting the public to specific risks and COCs at the locations. Until this is done, the proposed ICs are not acceptable in their present form. In particular, the wording of Historical Markers was specifically designed by DOE, in several instances against the specific recommendations of working group members (including mine), to avoid mention of site COCs or risks. The working group was not adequately informed why their recommendations were being ignored and overridden by DOE. The public has an absolute right to know this information and must be able to decide for themselves and their families, including small children who are unable to do so, whether risks and potential COCs exposures are worth it. WSCC has recently written to DOE asking them to reconsider posting information signs, an action I favor.

I also strongly endorse the following statement from my wife, Louise McKeel, who is also very knowledgeable about WSS operations and DOE's, MDNR's and MDC's stubborn refusal to post informational signs for the public to see:

> **My personal belief is that the central core of any morality is an awareness of and a respect for the feelings of others. To omit information that is, or even might be, important to the health of ourselves and others, both now and into the distant future, constitutes immoral deceit as well as bad professional practice.**
>
> **— Louise (Virginia R) McKeel May 12, 2004**

Page A-33, Section A2.1.5.7.

[1] The Southeast Drainage subsection should have added "radioactively and chemically" in line 4 before the word "contaminated." Again, "contaminated" is too vague—posterity and the public needs to know *contaminated with what*, specifically.

[2] Lines 7 through end of first paragraph, change "were" (last word) to "are" (contaminated) or "and are still" (contaminated) and "was" to "is" or "still is". The current wording suggests incorrectly that SED soil and spring SP-5303 and SP5304 water were completely remediated for unlimited unrestricted use, which is factually incorrect.

[3] Last paragraph of this subsection. Do the cited DOE 1997c and 1999g reports contain a map/s that annual and 5 year inspectors can use to locate radioactively contaminated SED sediment locations? Steven Lang of MDNR referred me in March 2003 (when sampling Hamburg Quarry water for the first time at my request) to the EA/CA six page document as the best reference for an SED contamination map. The simple line drawing did not show, however, exact (or any) contamination SED radioactive "hot spot" locations. This vital issue should be addressed explicitly in the next iteration/s and final WSS LTSM plans. Where are the SED "hot spots" documented?

Page A-33 and A-34, subsection A2.1.5.8.

[1] The fact noted on page A-34 that Busch Lake sediment had U-238 levels between 30 and 120 pCi/L, and thus needed to be cleaned up, yet Lakes 34 and 35 had surface water U-238 concentrations below 120 pCi/l, is an example of spurious legalistic reasoning on the part of DOE: (a) because sediment concentrations of U-238 in Lakes 34 and 35 were not measured and thus these lake sediments may still need to be further remediated, and (b) the cleanup goal of 120 pCi/L, or 4 times the EPA drinking water limit, is arbitrary (designated as such, it must be assumed, for convenience and not for valid scientific reasons) and thereby exposes the public to excess risk from a known kidney toxin and carcinogen, uranium-238 with a 4.5 billion year half-life.

[2] The statement on page A-34 in the last paragraph of this subsection that "Although not required, DOE subsequently placed these (Busch lake 36) sediments in the disposal cell." An explanation needs to be added (a) as to why taxpayers should pay for

unnecessary remediation work (by DOE's characterization in this subsection)?, and (b) if sediment placement in the cell was done to protect the public health and the environment, then logically there must have been a measurable increased risk that necessitated or drove this action (i.e., to err on the side of caution). It should be noted for the public record, this is an example where DOE apparently espoused and conformed to the growingly accepted Precautionary Principle. I recently sent the Weldon Spring Citizen's Commission part I of II articles from Rachel's News 2004 newsletter defining and discussing the pros and cons of this important Precautionary Principle "new way" of thinking about environmental remediation. Part II will follow soon and a copy will be forwarded to WSCC.

Pages A-45 - 47. Section A2.2.1.2 Springs

[1] I note the data presented are from 2002 when this draft report is dated March 2004. Why wasn't 2003 data reported?

[2] Table A-8 on Page A-46 is disingenuous in reporting High Flow and Low (base) Flow rates at Burgermeister spring 6301 because: (a) the water flow gage at this location has been broken since at least M arch 14, 2003, and (b) according to Pam Thompson at the first annual WSS inspection public meeting in 2004, the river gage has not been repaired and will not be because determinations of high and low flow rates are no longer necessary or pertinent (I don't agree). The fact that high and low flow rate uranium and nitrate data at Spring 6301 will no longer be available should be noted and explained in this subsection.

This concludes my comments for I have unfortunately run out of time. Thank you for allowing me the opportunity to provide additional public input from a concerned citizen stake holder, a physician faculty member at Washington University, and a medical scientist (pathologist). My address is 5587-C Waterman Blvd, St. Louis MO 63112, home phone (314) 367-8888, home Fax (314) 367-7663, e-mail: dan@pathbox.wustl.edu.

Respectfully submitted,

Dan McKeel /DWMcK

Daniel W. McKeel Jr., MD

May 12, 2004

DOE RESPONSE TO DANIEL MCKEEL COMMENTS
on the March 2004 Draft Long Term Surveillance and Maintenance Plan
for the Weldon Spring, Missouri, Site

Specific Comments and Concerns:
1st 3 bullets: Comments noted
Page i: Comment Noted
Page ii : This type of information is included in Section 2.1.1 and 2.2.2, not on the title page of the document. Personnel changes will occur, but DOE currently expects significant staff continuity for the site.

Section 1.3
[1]: DOE will review this document when/if it is issued to determine if it would be an appropriate reference for a future revision to the LTS&MP.
[2]: The DOE feels the site history, which has undergone several comment-response periods is complete and adequate for the purposes of this document.

Section 1.4
[1]: Based on the engineered manner in which the waste was placed into the disposal cell, the list of the contents of the cell as included in Appendix C is adequate for this document.
WP437: See key on page C-7. WP= Work Package. 437 is the work package (or subcontract) number which applied to the contract for construction of the disposal cell. The spreadsheet with the radionuclide breakdown was provided to you in response to a previous comment that you made on the LTSM&P. It has been included in Appendix C.
[2]: The existing inventory has been provided.
[3] The contaminated haul roads referred to in this table were temporary roads built within the chemical plant and used to transport wastes from final waste stockpile areas to the disposal cell. These final roads were removed, with contaminated soils placed in the disposal cell. These roads became contaminated since the loads were not tarped and it was more efficient to transport waste on site in this way. These were not roads located outside the site boundary, for example the Quarry haul road, where scanning and tarping provided assurance that this lengthy haul road did not become contaminated.
[4] The information about the waste received from the Army is adequate for this plan. The specific contaminants of concern for the disposal cell and associated leachate are known and documented and have been monitored for since the waste was placed into the disposal cell. See Appendix K for leachate monitoring information.
[5] The waste inventory contains categories such as rubble and metal which would account for truck parts that were unable to be decontaminated. The site was very successful in decontaminating equipment used in the remedial action.
[6] See response to Comment 1.4[1].

<u>Section 1.6</u>
[1] DOE agrees that negotiations regarding real estate agreements has not been as productive as expected. The revisions to this LTS&MP now categorize institutional

controls as required and additive, with emphasis on already existing institutional controls such as regulatory restrictions.
[2] Risk assessments produced using EPA guidance have determined that residual contamination at these areas would not warrant physical barriers. The Historical Marker committee provided input to the language for the signs to be placed in various areas on and around the site. DOE believes that the committee was in majority agreement about the language on the signs. Regarding residual contamination, several of the signs indicate that a radiological and chemical cleanup took place. Information on those signs refer the reader to the Interpretive Center for additional discussions on the clean up process and any other data the reader might desire. The Grand Junction Website address at the center and is available to allow the interested party further investigation of documents and issues regarding the remediation of the site.
[3] See above response.
[4] See above response.

Page A-33, Section A2.1.5.7
[1] Comment noted
[2] The use of past tense is appropriate in the context of describing how and when the drainage became contaminated.
[3] The inspectors will not be searching for residual radioactively contaminated SED sediment locations. The Southeast Drainage cleanup is documented in a closeout report available on the Grand Junction web site.

Page A-33 and A-34, subsection A2.1.5.8
[1] The comment confuses sediment and surface water concentrations and their respective concentration units of pCi/g and pCi/L and then draws erroneous conclusions based on this misunderstanding. The cleanup criteria for the Chemical Plant for sediment was 120 pCi/g (not pCi/L) and this does not correspond to the EPA drinking water limit. Busch Lake sediments were characterized in 1989, resulting in removal of some sediments from Busch Lake 36.
[2] Although we are not familiar with the "Precautionary Prini~~i~~ciple," you may be correct in describing the Lake 36 sediment removal action in this context. The DOE was not required to remove these sediments by the approved plans, yet decided to do so at the request of the Missouri Department of Natural Resources and the Missouri Department of Conservation (MDC), since MDC made these sediments accessible during a lake restoration project. This was one of many examples of DOE going the extra mile to accommodate reasonable requests from our stakeholders.

Pages A-45-47. Section A2.2.1.2
[1] 2002 represents a baseline period for groundwater at the Chemical Plant Area. Current data can be found on the Grand Junction website and in the annual site environmental report.
[2] High flow and low flow have been measured historically and can still be determined qualitatively based upon observation of precipitation events and field experience.

Kay Drey 515 West Point Ave. University City, MO 63130

May 27, 2004

Pamela Thompson, Project Manager
Weldon Spring Site -- Remedial Action Project Office
US Department of Energy – Grand Junction Office
7295 Highway 94 South -- St. Charles, MO 63304

Dear Pamela:

With apologies for my delay, I am submitting the following comments to you regarding the March 2004 draft of the "Long-Term Surveillance and Maintenance Plan for the Weldon Spring, Missouri, Site," GJO-2004-592-TAC.

Our nation and the American press have been horrified and outraged --- and rightfully so --- by recent news of the atrocities and conditions at the Abu Ghraib prison in Baghdad. Those atrocities are in the here and now, and extraordinary photographs bear undeniable evidence.

But information about a different type of inhumanity remains hidden from today's public. The media are not interested. The public is uninformed. The US government has generated incalculable tons of permanently toxic wastes in the name of national defense --- starting in 1942, here in St. Louis --- for the purpose of creating nuclear weapons of mass destruction. While two of the bombs were aimed at our Japanese enemies, in 1945, the rest were detonated in the Pacific Ocean, in Nevada, and elsewhere with primarily only our own servicemen and civilians and Pacific Islanders present to bear witness --- and then to bear the resulting burdens of ill health and shortened life span.

Starting in 1988, the US Congress finally began admitting to the atom bomb test victims (or their surviving families) that some of their cancers were indeed caused by their exposure to radiation at and near the many Ground Zeros created during the atmospheric tests of the 1940s, 50s, and 60s. And as of 2000, some of the workers (or their survivors) who fabricated the nuclear weapons also began to be compensated for the lingering or fatal illnesses caused by their exposure to radiation.

But the waterways --- both surface and underground --- and the communities near the now-abandoned weapons factories are still contaminated, even those that have been "cleaned up." Weldon Spring is a good example. Although the Department of Energy has spent about one billion dollars to remediate the Weldon Spring Site, uranium and related radioactive and hazardous wastes remain spread throughout the site's underlying karst terrain.

> Groundwater that travels through karst subsurface channels provides human and livestock drinking water through wells, springs and surface streams. But the hollow nature of karst terrain results in a very high pollution potential. In karst terrain, streams and surface runoff entering sinkholes or caves bypass natural filtration through the soil. Such

openings provide direct conduits for contaminants. Groundwater can travel quite rapidly through these underground networks up to several miles a day --- and contaminants can be transmitted quickly to wells and springs in the vicinity. Unless watersheds are protected, the direct connections between the surface and the subsurface can threaten the quality of our drinking water. (Quoted from the opening page of "Living on Karst in South Central Missouri," by the Cave Conservancy of the Virginias [1997] as amended by The Nature Conservancy, Lower Ozarks Project [2003].)

In addition to Weldon Spring's contaminated waterways, the DOE is leaving behind a seven-story-high, 45-acre pile of radioactive industrial sludges, liquids, and corroding debris --- containing an estimated ***7,255 curies,*** including materials like uranium-238 that has a half-life of ***4.5 billion years.*** And goodness-knows what else is being left behind in that St. Charles County bunker.

I continue to believe that the Department of Energy is obligated to clean up the remaining, entrapped contamination. I believe that walking away from the contaminated groundwater is unconscionable. ***At the very least,*** the DOE should place ***warning signs and fencing*** within the site, at all public access points, and at adjacent properties where polluted Weldon Spring surface- and ground-waters flow.

This week's Science News announces the results of an extensive new study of streams and groundwater conducted by the US Geological Survey. "More than 400 scientists tested thousands of rivers, aquifers, wells, fish, and sediments across the country over a 10-year period. They analyzed some 11 million samples for more than 600 chemicals." According to the USGS: "Virtually all of America's fresh water is tainted with low concentrations of chemical contaminants." (May 22, 2004 – page 326)

How can the DOE be complacent about pollutants that will last for millennia? A promise of "long-term surveillance" --- for 4.5 billion years, times ten --- is simply not enough.

Sincerely,

Kay

DOE RESPONSE TO KAY DREY COMMENTS
on the March 2004 Draft Long Term Surveillance and Maintenance Plan
for the Weldon Spring, Missouri, Site

DOE appreciates for your involvement over the years in bringing issues to our attention. Although we realize we have not always been able to address all of your concerns, we acknowledge that you have devoted considerable time and effort engaging in the public participation process.

Regarding the one specific comment that DOE should place warning signs and fencing at the site, we maintain that the robust cleanup efforts have left the site in a condition that is appropriate for the current recreational, administrative and educational use. This assessment is shared by the Environmental Protection Agency, the Missouri Department of Natural Resources, the Missouri Department of Conservation, the Weldon Spring Citizens Commission and many other stakeholders who have closely followed the cleanup efforts at the site.